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(54) IMPROVED SHADE, MORE PARTICULARLY AN UMBRELLA AND/OR SUNSHADE

VERBESSERTES SCHIRM, INSBESONDERE REGENSCHIRM UND/ ODER SONNENSCHIRM
OMBRAGE AMELIORE, NOTAMMENT, DE PARASOL ET/OU DE PARE-SOLEIL

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Description

[0001] The present invention concerns an improved shade, which mainly consists of a bar, of a canvas fixed to this bar on one far end, arms for stretching the canvas and a bush which can be shifted over the bar in order to open and close the canvas by means of the arms.

[0002] Such shades are already known, whereby the arms are connected with one far end to the edge of the canvas and are hinge-mounted with their other far end to the top of the above-mentioned bar and whereby, in order to operate the shade, more particularly to open and close the canvas by means of the arms, auxiliary bars are provided between the above-mentioned bush on the one hand and the above-mentioned arms on the other hand.

[0003] In order to open the shade, the above-mentioned bush is moved upward over the bar, as a result of which the above-mentioned auxiliary bars push the arms outward and thus stretch the canvas in the opened position, whereby the above-mentioned bush is locked in the opened position of the shade by means of a locking mechanism.

[0004] In order to close the shade, the above-mentioned locking mechanism must be unlocked in the known manner, as a result of which the above-mentioned bush can be moved down again.

[0005] Since the above-mentioned arms all have the same length in case of the known shades, and all the above-mentioned auxiliary bars are equally long as well, such a known shade is symmetrical.

[0006] The above-mentioned arms may have the shape of flexible laths as well as of hinge-mounted arms.

[0007] A disadvantage of such known shades is that, for the operation, more specifically for the opening and closing, arms as well as auxiliary bars are required.

[0008] Another disadvantage of such known shades is that the above-mentioned auxiliary bars, during the operation and in the opened position of such shades, exert moments of force on the above-mentioned arms, so that these arms have to be made heavier.

[0009] Another disadvantage is that the above-mentioned bush, during the operation, always remains under the surface formed in the opened position by the far ends of the above-mentioned arms which are fixed to the canvas, as a result of which much place is always required and the surface to be realised is restricted.

[0010] An additional disadvantage consists in that the above-mentioned bar must extend under the shade over a sufficient length in order to be able to lower the bush sufficiently so as to close the shade entirely, as a result of which the above-mentioned bar can be an obstacle in case the shade is suspended or the like, for example.

[0011] Yet an additional disadvantage is that the mode of construction of such a shade does not allow to manufacture an asymmetric shade with arms having different lengths, as large moments and tensile forces are created in the arms, the canvas and the bar.

[0012] Another disadvantage is that the above-mentioned bar extends from the middle of such a known shade, perpendicular to the surface formed by the far ends of the above-mentioned arms which are connected to the canvas, such that the possibilities for positioning such a shade are limited, and the open passage under such a shade is obstructed, and whereby also additional slantingly directed supports are often required for the anchoring.

[0013] A shade according to the preamble of claim 1 is described in AU 572 753.

[0014] With the known shades, initially opening the shade as of a closed position requires an enormous force in order to be able to overcome the tensions of the canvas on the arms, such that it can even be impossible to open the shade as of the entirely closed position, especially in the case of large shades.

[0015] The present invention aims to remedy one or several of the above-mentioned and other disadvantages.

[0016] To this end, the invention concerns an improved shade according to claim 1, more particularly an umbrella and/or sunshade, which mainly consists of a bar, a canvas fixed to one far end of this bar, arms for stretching the canvas and a bush which can be moved over the bar to open and close the canvas by means of the arms, whereby the above-mentioned arms are fixed with one far end to the above-mentioned canvas, near the edge of the canvas, and whereby they are hinge-mounted with their other far end to the above-mentioned bush, and whereby the above-mentioned canvas is provided with cut-outs on the edge between two adjacent arms, which make sure that forces which are transmitted to the above-mentioned arms by the above-mentioned canvas converge in one point, more particularly in the centre point of the bush.

[0017] An advantage of such a shade is that, for the operation, more specifically the opening and closing of the shade, no auxiliary bars are required, so that the construction of a shade according to the invention is relatively simple, such that it can be mounted faster and easier.

[0018] Another advantage of such an improved shade is that, by omitting the above-mentioned auxiliary bars, no moments of force are exerted on the above-mentioned arms during the operation and in the opened position, but they are only strained by mere pressure forces. As a result, the diameter of the arms can be limited as there is a better utilization of materials in case of a buckling load than in case of a flexural strain.

[0019] An additional advantage consists in that the above-mentioned bar may have a restricted length, since the above-mentioned bush can only be moved over the part of the bar which is situated between the surface formed by the free ends of the above-mentioned arms and the top of the bar during the operation, as a result of which such a shade can be suspended or the like for example, such that the above-mentioned bar does not extend under the shade and forms an obstacle by doing

so.

[0020] Another additional advantage is that the mode of construction of such a shade makes it possible to manufacture an asymmetric shade with arms of different lengths. As a result, the possibilities as far as shape is concerned are practically unlimited.

[0021] Another advantage is that the above-mentioned bar can be positioned slantingly in relation to the surface formed by the free ends of the above-mentioned arms which are connected to the canvas, resulting in more possibilities to position such a shade.

[0022] Another advantage of such an improved shade is that, thanks to the presence of the above-mentioned cut-outs, forces which are transmitted by the above-mentioned canvas to the above-mentioned arms converge in one point, more, particularly in the centre point of the bush, such that there are no heavy moments on the far ends of the arms, and the bush can be easily moved over the bar.

[0023] According to a preferred characteristic of the invention, the above-mentioned canvas, in the opened position, is stretched in a self-supporting manner in a convex shape, whereby the canvas is merely under strain of tension.

[0024] This is advantageous in that the wind is caught less easily, such that such a shade according to the invention will not turn over easily and as a result of which the above-mentioned arms and the bar are put under less strain.

[0025] In a preferred embodiment of a shade according to the invention, the far ends of the arms which are connected to the canvas, are situated in a single surface and the above-mentioned bar forms an acute angle with said surface.

[0026] An advantage thereof is that the space under the shade provides a larger open passage compared to the known shades, and that such a shade according to the invention can be anchored with its bar in a place of choice without any additional slantingly directed support being required.

[0027] According to the invention, means are provided to provide for an initial rotational movement to the arms when opening.

[0028] This is advantageous in that, by moving the above-mentioned bush down over the bar in order to open the shade, a moment of torque is exerted on the arms, such that the shade can be easily opened without much physical effort, even in the case of very large shades having a span of several meters to some ten meters or more.

[0029] With the known shades, initially opening the shade as of a closed position requires an enormous force in order to be able to overcome the tensions of the canvas on the arms, such that it can even be impossible to open the shade as of the entirely closed position, especially in the case of large shades.

[0030] In order to better explain the characteristics of the present invention, the following preferred embodi-

ments of an improved shade according to the invention are described as an example only without being limitative in any way, with reference to the accompanying figures, in which:

figure 1 schematically represents an improved shade according to the invention in perspective;
figure 2 is a section according to line II-II in figure 1;
figure 3 represents the part indicated in figure 2 by F3 to a larger scale;
figures 4 and 5 represent a section as in figure 2, but in another position;
figures 6 and 7 schematically represent a vector of the forces acting on a shade according to the invention while the shade is in use;
figure 8 represents a variant of a shade according to the invention, as represented in figure 2;
figure 9 represents another variant according to figure 3.

[0031] Figures 1 and 2 represent an improved shade 1 according to the invention which mainly consists of a bar 2, a canvas 3 fixed to one far end of this bar 2, arms 4 to stretch the canvas 3 and a bush 5 or ring for opening and closing the canvas 3 by means of the arms 4 which can be moved over the bar 2.

[0032] The above-mentioned arms 4 are fixed to the above-mentioned canvas 3 with one far end 6, in this case near the edge 7 of the canvas 3, and they are hinged to the above-mentioned bush 5 with their other far end 8.

[0033] In the given example, the above-mentioned arms 4 have different lengths, as a result of which the shade 1 according to the invention is asymmetric.

[0034] It is clear that such a shade 1 according to the invention can also be provided with arms 4 having an equal length, as a result of which the shade 1 is symmetric.

[0035] The above-mentioned edge 7 of the canvas 3 is also provided with cut-outs 9 between two adjacent arms 4, which in this case have different dimensions, but which can also be equally large.

[0036] According to the invention, the improved shade 1 according to the invention is additionally provided with means 10 to provide for an initial rotational movement to the arms 4 when opening the shade 1 as of an entirely closed position, which means 10 in this case have the form of draw springs 11 which are each fixed to the top of a respective arm 4 on the one hand and to the above-mentioned bush 5 on the other hand.

[0037] It is clear that, according to the invention, it is not necessary to provide a spring 11 between all the arms 4 and the bush 5, but that it is sufficient to provide such a spring 11 between one or some of the arms 4 and the bush 5.

[0038] The use of such a shade according to the invention is represented in the figures 2 to 5 and is very simple and as follows.

[0039] In order to open the canvas 3, the presence of the above-mentioned means 10 is required, which make sure that the arms 4 are already turned up somewhat in a first movement, around their respective hinge attachments to the bush 5.

[0040] Next, the above-mentioned bush 5 can be moved down over the bar 2, for example manually, such that the arms 4 are turned further up and the canvas 3 is put under strain.

[0041] If the above-mentioned means 10 are not present and the above-mentioned bush 5 has to be moved down in order to open the shade 1, the arms 4 and the canvas 3 extend parallel to the bar 2, as a result of which said arms 4 pull the canvas 3 down with a certain tensile force and no torque is created which can turn the arms 4 open, since the direction of said tensile force is parallel to the reactive force which is created in the canvas 3.

[0042] Thanks to the presence of the above-mentioned means, however, the arms 4 are already turned somewhat open, such that the tensile force in the canvas is no longer parallel to the bar 2 and a torque is created, as a result of which the arms 4 turn open.

[0043] Figure 2 represents an improved shade according to the invention, in the opened position, whereby the bush 5 is moved down and as a result of which the arms 4 stretch the edge 7 of the canvas 3 outward in a convex manner.

[0044] What is also represented is that, in the opened position of the shade 1, the arms 4 extend at an angle in relation to the surface 12 through the free ends 6 of the arms 4, such that the above-mentioned bush 5 is situated higher than this above-mentioned surface 12.

[0045] If the arms 4 would be situated entirely in the above-mentioned surface 12 in the opened position, the canvas 3 could easily "fold in" or "collapse" under the influence of the wind.

[0046] If there is wind or another vertical force is being exerted, the arms 4 tend to turn further up around their respective hinge attachments to the above-mentioned bush 5.

[0047] Since the canvas 3 practically cannot stretch, however, and is already in a pre-stretched condition, what is called a "form-active" structure is formed whereby the stability of the whole is determined by the form of said canvas 3 and as a result of which the arms 4 cannot move further up.

[0048] In order to close the improved shade 1 according to the invention, the bush 5 must be moved to the top of the shade, as represented in figures 4 and 5. In this manner, the arms 4 hinge around the suspension points on the bush 5 and the canvas 3, partly under the influence of the canvas' 3 own weight, such that the above-mentioned arms 4 fold down.

[0049] While opening an improved shade 1 according to the invention again, the strain on the canvas 3 is transmitted directly from the edge 7 of the above-mentioned canvas 3 to the central bar 2 via the arms 4.

[0050] Figure 6 shows how the above-mentioned arms 4 taper according to the direction of forces 13 which are exerted by the above-mentioned canvas 3 on the far ends 6 of the respective arms 4, in case of a mere prestress, more particularly without any external strain and in an entirely opened position.

[0051] The aim thereof is to merely pressure-load the arms 4 and to not put them under any flexural strain, such that the diameter of the above-mentioned arms 4 can be restricted and which makes the construction lighter and cheaper.

[0052] The above-mentioned different cut-outs 9 make sure that forces 13, which are transmitted by the above-mentioned canvas 3 to the above-mentioned arms 4, converge in one point 14, more particularly in the centre point of the bush 5.

[0053] The purpose thereof is that no heavy moments are created on the far ends of the arms 4, such that it would become more difficult to move the bush 5 over the bar 2.

[0054] In order to determine the appropriate depth and form of the above-mentioned cut-outs 9, use can be made of existing algorithms.

[0055] It is also possible to determine these cut-outs 9 in an experimental manner and to obtain the right cut-out 9 by each time making the cut-out 9 somewhat deeper until the forces on the arms 4 converge in one point 14.

[0056] Figure 7 shows how the above-mentioned bar 2 is placed slantingly, more specifically in the direction of the resultant force at the top of the shade 1.

[0057] If necessary, the above-mentioned bar 2 can be provided with a locking mechanism which is not represented in the figures, in order to lock the above-mentioned bush 5 against moving to the top of the above-mentioned shade 1, and it can be provided with a stop for the bush 5 in its bottommost position.

[0058] As represented in figure 7, the direction of the resultant force 14 of the canvas 3 forms an acute angle α with the above-mentioned surface 12, as a result of the asymmetric form of the shade 1 according to the invention.

[0059] In order to compensate for this, the above-mentioned bar 2 also encloses an acute angle α with the above-mentioned surface 12 through the far ends 6 of the arms 4 on the edge 7 of the canvas 3 in an opened position, such that the direction of the above-mentioned bar 2 coincides with the direction of the above-mentioned resultant force 14.

[0060] This is advantageous in that the resultant force 14 is optimally absorbed, such that no moment is exerted on the above-mentioned bar 2.

[0061] This has for a result that the thickness of the above-mentioned bar 2 can be restricted, such that material and costs are saved.

[0062] Another advantage thereof is that the above-mentioned bar 2 does not entirely extend in the middle of the above-mentioned shade 1, such that the space under the shade offers a larger open passage compared

to the known shades and such that a shade 1 according to the invention can be anchored in a desired place with its bar 2 without any additional slantingly directed support being required.

[0063] Figure 8 represents a variant of a shade 1 according to the invention, whereby the shade 1 is suspended by means of suspension means 14.

[0064] The above-mentioned bush 5 is provided such that it can be moved according to the invention between the surface 12 formed by the free ends 6 of the above-mentioned arms 4 on the one hand and the top of the bar 2 on the other hand.

[0065] The use of this embodiment is analogous to that of the above-described embodiment.

[0066] This variant is advantageous in that, when in use, the bar 2 does not extend far under the above-mentioned canvas 3, such that a free passage is created under the shade 1, which is not possible with a conventional shade, since the bar has to be much longer there in order to be able to move the bush over a sufficiently large distance in order to operate the shade.

[0067] As the arms 4 may have different lengths, a shade 1 according to the invention can be realised in a shape which deviates from the usual round shape of conventional shades, such that with a single shade 1 according to the invention a relatively complex surface can be covered.

[0068] Figure 9 represents a variant of an improved shade 1 according to the invention, whereby the above-mentioned means 10 for providing an initial rotational movement to the arms 4 are formed of compression springs 15 which are each provided under a respective arm 4 on the one hand and on the above-mentioned bush 5 on the other hand.

[0069] The above-mentioned bush 5 in this case moreover has a collar 16 which forms a stop for the above-mentioned arms 4, such that it is avoided that these arms 4 might fold up for example under the influence of wind or the like.

[0070] If required, drawing elements may also be provided to the above-mentioned arms 4, for example in the form of cables or the like, which are fixed to a respective arm 4 on the one hand, and to the above-mentioned bar 2 or to the ground on the other hand.

[0071] Thus is formed an additional attachment which prevents the canvas 3 and the arms 4 from folding up under the influence of vertical forces, for example by the wind.

[0072] It is clear that the above-mentioned means 10 for providing an initial rotational movement to the arms 4 are not restricted to draw springs or compression springs, but that they can be realised in all sorts of manners, for example in the form of a coil spring, or, not according to the invention, in the form of a motor, a hydraulic or a pneumatic system, or any other system whatsoever which is capable of overcoming the initial turning force of the arms.

[0073] The present invention is by no means limited to

the above-described embodiments given as an example and represented in the accompanying figures; on the contrary, such an improved umbrella and/or sunshade can be made in all sorts of shapes and dimensions while still remaining within the scope of the present invention, as defined by the claims.

Claims

1. Improved shade, more particularly umbrella and/or sunshade, which mainly consists of a bar (2), a canvas (3) fixed to one far end of this bar (2), arms (4) for stretching the canvas (3) and a bush (5) which can be moved over the bar (2) for opening and closing the canvas (3) by means of the arms (4), whereby the above-mentioned arms (4) are fixed to the above-mentioned canvas with one far end (6) and are hinged-mounted to the above-mentioned bush (5) with their other far end (8), and in that the above-mentioned canvas (3) is provided with cut-outs (9) on the edge (7), between two adjacent arms (4), whereby these cut-outs (9) make sure that forces (13) which are transmitted to the above-mentioned arms (4) by the above-mentioned canvas (3) converge in one point (14), more particularly in the centre point of the bush (5), **characterised in that** it is provided with means (10) to provide an initial rotational movement to the arms (4) when opening the shade (1) and **in that** the above-mentioned means (10) are formed of one or several springs (11 or 14) which are provided between a respective arm (4) and the above-mentioned bush (5).
2. Improved umbrella and/or sunshade according to any one of the preceding claims, **characterised in that** the above-mentioned arms (4) have different lengths.
3. Improved umbrella and/or sunshade according to any one of the preceding claims, **characterised in that** the above-mentioned arms (4) are straight.
4. Improved umbrella and/or sunshade according to claim 2, **characterised in that** the shape of the above-mentioned canvas (3) is asymmetric.
5. Improved umbrella and/or sunshade according to claim 2, **characterised in that** the above-mentioned canvas (3) is provided with cut-outs (9) on the edge (7) having different dimensions, between two adjacent arms (4).
6. Improved umbrella and/or sunshade according to claim 1, **characterised in that**, in the opened position, the far ends (6) of the arms (4), which are connected to the above-mentioned canvas (3), are situated in a single surface (12).

7. Improved umbrella and/or sunshade according to claim 6, **characterised in that** the above-mentioned bar (2) encloses an acute angle (α) with the surface (12) through the free ends (6) of the arms (4).
8. Improved umbrella and/or sunshade according to claim 1, **characterised in that** the above-mentioned bar (2) is provided with a locking mechanism to lock the above-mentioned bush (5).
9. Improved umbrella and/or sunshade according to claim 1, **characterised in that** the above-mentioned bar is provided with a stop for the bush (5) in its lowest position.
10. Improved umbrella and/or sunshade according to claim 1, **characterised in that** the above-mentioned arms (4) are connected to the canvas (3) near the edge (7) of the canvas (3).
11. Improved umbrella and/or sunshade according to claim 1, **characterised in that** the above-mentioned canvas (3), in the opened position, is stretched in a self-supporting manner in a convex shape, whereby the canvas is merely under strain of tension.
12. Improved umbrella and/or sunshade according to claim 6, **characterised in that** the above-mentioned bush (5) is provided such that it can move between the surface (12) through the free ends (6) of the arms (4) in the opened position on the one hand, and the top of the above-mentioned bar (2) on the other hand.

Patentansprüche

1. Verbesserter Blende, insbesondere Schirm und/oder Sonnenblende, die im Wesentlichen aus einer Stange (2), einem Tuch (3), das an einem äußeren Ende dieser Stange (2) befestigt ist, Armen (4) zum Strecken des Tuchs (3) und einer Hülse (5) besteht, die über die Stange (2) bewegt werden kann, um das Tuch (3) mittels der Arme (4) zu öffnen und zu schließen, wobei die Arme (4) an dem Tuch mit einem äußeren Ende (6) befestigt und mit der Hülse (5) mit ihrem anderen äußeren Ende (8) mit Scharnieren montiert sind, und dass das Tuch (3) mit Ausschnitten (9) auf der Kante (7) zwischen zwei benachbarten Armen (4) versehen ist, wobei diese Ausschnitte (9) sicherstellen, dass Kräfte (13), die auf die Arme (4) durch das Tuch (3) übertragen werden, an einer Stelle (14) konvergieren, insbesondere im Mittelpunkt der Hülse (5), **dadurch gekennzeichnet, dass** sie mit Mitteln (10) versehen ist, um den Armen (4) eine anfängliche Drehbewegung zu verleihen, wenn die Blende (1) geöffnet wird, und dass die Mittel (10) aus einer oder mehreren Federn (11 oder 14) gebildet sind, die zwischen dem jewei-

ligen Arm (4) und der Hülse (5) vorgesehen sind.

2. Verbesserter Schirm und/oder Sonnenblende nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** die Arme (4) unterschiedliche Längen haben.
3. Verbesserter Schirm und/oder Sonnenblende nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Arme (4) gerade sind.
4. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 2, **dadurch gekennzeichnet, dass** die Form des Tuches (3) asymmetrisch ist.
5. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 2, **dadurch gekennzeichnet, dass** das Tuch (3) zwischen zwei benachbarten Armen (4) mit Ausschnitten (9), die unterschiedliche Abmessungen haben, auf der Kante (7) versehen ist.
6. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 1, **dadurch gekennzeichnet, dass** die äußeren Enden (6) der Arme (4), die mit dem Tuch (3) verbunden sind, in der geöffneten Position in ein und derselben Oberfläche (12) liegen.
7. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 6, **dadurch gekennzeichnet, dass** die Stange (2) einen spitzen Winkel (α) mit der Oberfläche (12) durch die freien Enden (6) der Arme (4) einschließt.
8. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 1, **dadurch gekennzeichnet, dass** die Stange (2) mit einem Verriegelungsmechanismus versehen ist, um die Hülse (5) zu verriegeln.
9. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 1, **dadurch gekennzeichnet, dass** die Stange mit einer Stoppvorrichtung für die Hülse (5) in ihrer untersten Position versehen ist.
10. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 1, **dadurch gekennzeichnet, dass** die Arme (4) mit dem Tuch (3) nahe der Kante (7) des Tuches (3) verbunden sind.
11. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 1, **dadurch gekennzeichnet, dass** das Tuch (3) in der offenen Position auf selbsttragende Art und Weise in einer konvexen Formen gestreckt ist, wobei das Tuch nur unter Spannungsbelastung ist.
12. Verbesserter Schirm und/oder Sonnenblende nach Anspruch 6, **dadurch gekennzeichnet, dass** die Hülse (5) derart vorgesehen ist, dass sie sich zwi-

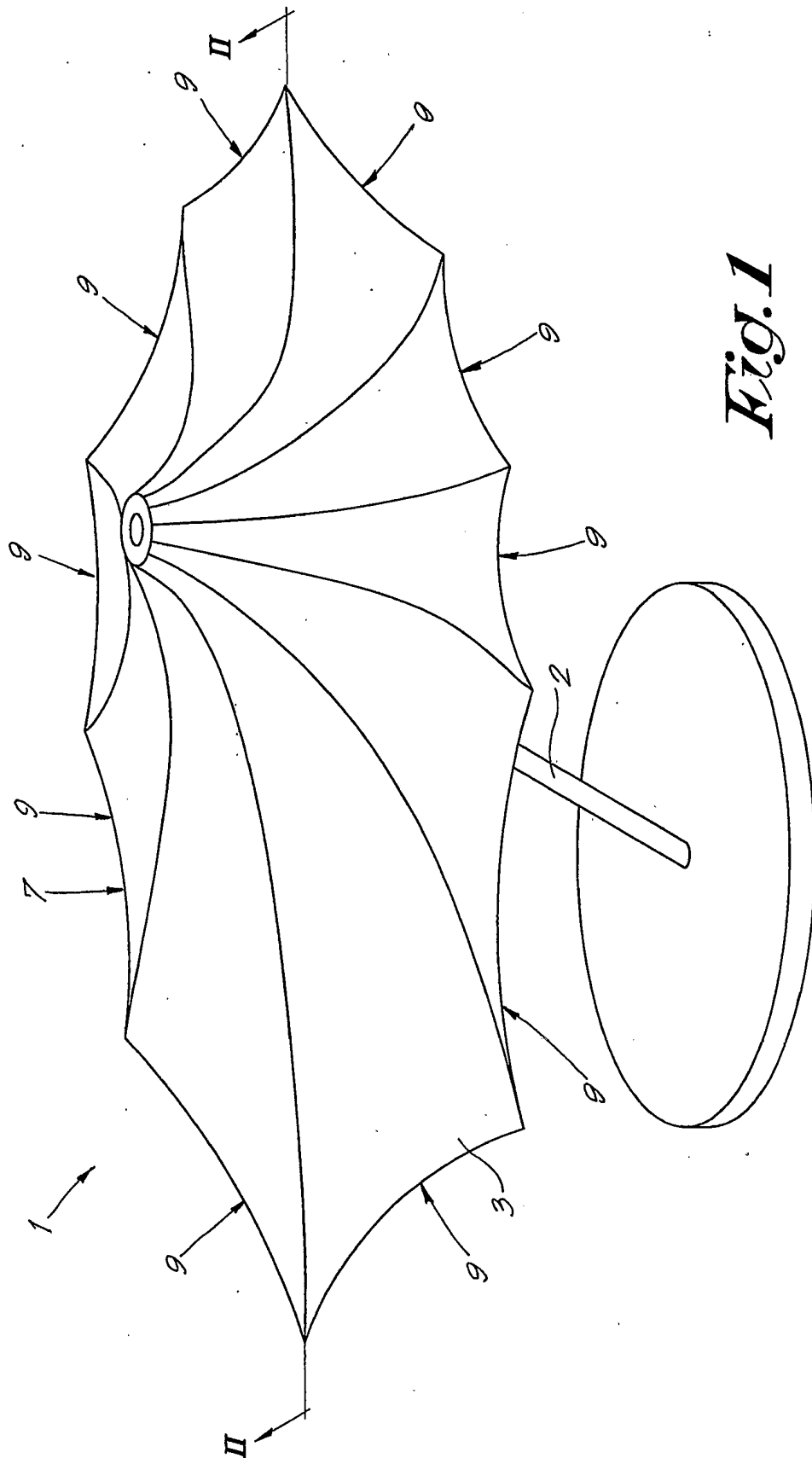
schen der Oberfläche (12) durch die freien Enden (6) der Arme (4) in die geöffnete Position einerseits und zu der Oberseite der Stange (2) andererseits bewegen kann.

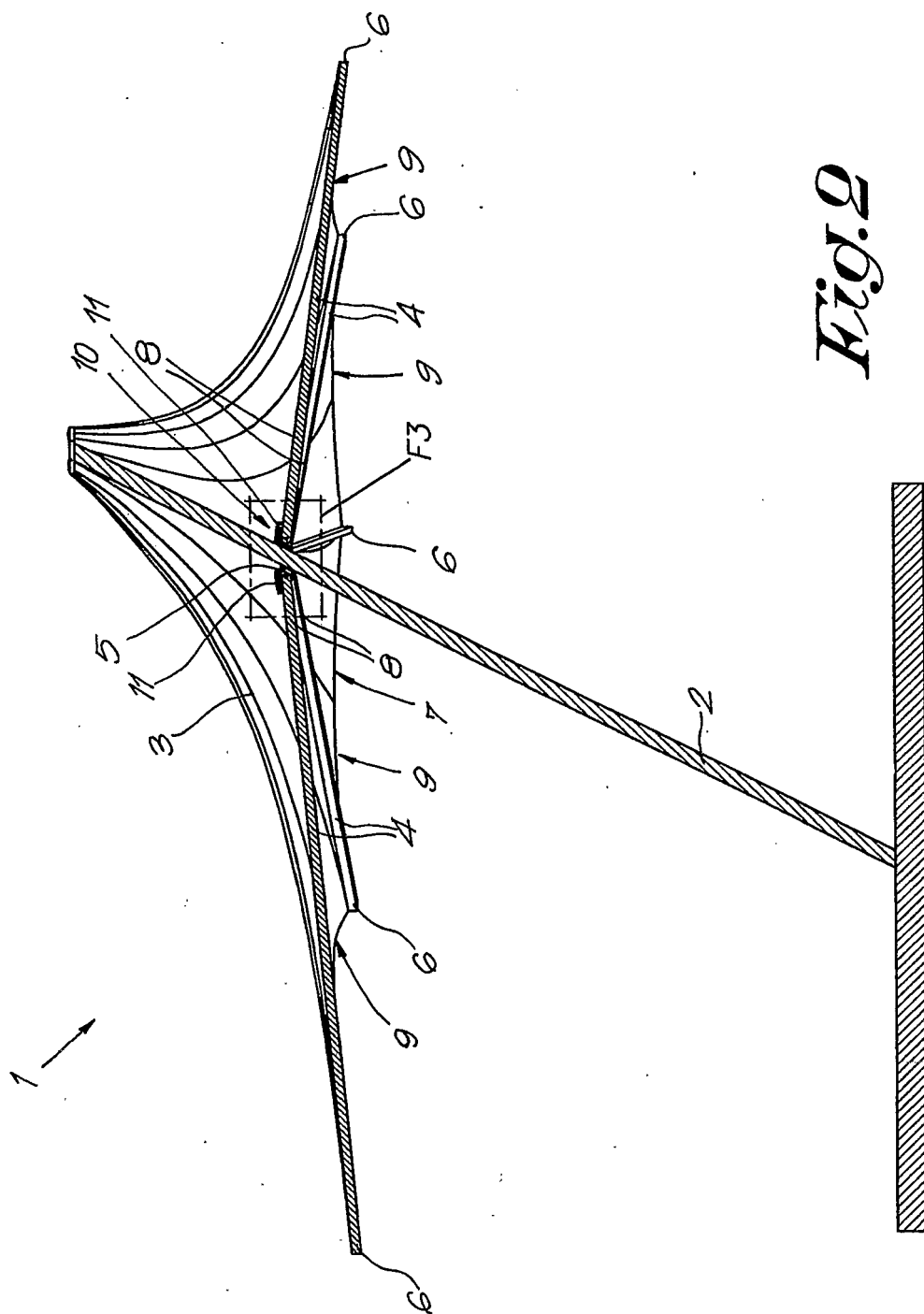
Revendications

1. Protection, plus particulièrement parapluie et/ou parasol, amélioré qui consiste principalement en une barre (2), une toile (3) fixée à une extrémité de cette barre (2), des bras (4) pour étendre la toile (3) et une douille (5) qui peut être déplacée sur la barre (2) pour ouvrir et fermer la toile (3) au moyen des bras (4), les bras (4) susmentionnés étant fixés à la toile susmentionnée à une extrémité (6) et étant montés articulés sur la douille (5) susmentionnée à leur autre extrémité (8), et en ce que la toile (3) susmentionnée est pourvue de découpes (9) sur le bord (7), entre deux bras (4) adjacents, ces découpes (9) garantissant que des forces (13) qui sont transmises aux bras (4) susmentionnés par la toile (3) susmentionnée convergent en un point (14), plus particulièrement au point central de la douille (5), caractérisé en ce des moyens (10) sont prévus pour conférer un mouvement de rotation initial aux bras (4) quand on ouvre la protection (1) et en ce que les moyens (10) susmentionnés sont formés d'un ou plusieurs ressorts (11 ou 14) qui sont prévus entre un bras (4) respectif et la douille (5) susmentionnée. 10
2. Parapluie et/ou parasol amélioré selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les bras (4) susmentionnés ont des longueurs différentes. 35
3. Parapluie et/ou parasol amélioré selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les bras (4) susmentionnés sont droits. 40
4. Parapluie et/ou parasol amélioré selon la revendication 2, **caractérisé en ce que** la forme de la toile (3) susmentionnée est asymétrique. 45
5. Parapluie et/ou parasol amélioré selon la revendication 2, **caractérisé en ce que** la toile (3) susmentionnée est pourvue de découpes (9) sur le bord (7) ayant des dimensions différentes, entre deux bras (4) adjacents. 50
6. Parapluie et/ou parasol amélioré selon la revendication 1, **caractérisé en ce que**, dans la position ouverte, les extrémités (6) des bras (4) qui sont reliées à la toile (3) susmentionnée sont situées dans un seul plan (12). 55
7. Parapluie et/ou parasol amélioré selon la revendication 6, **caractérisé en ce que** la barre (2) susmen-

tionnée fait un angle aigu (α) avec le plan (12) passant par les extrémités (6) libres des bras (4).

8. Parapluie et/ou parasol amélioré selon la revendication 1, **caractérisé en ce que** la barre (2) susmentionnée est pourvue d'un mécanisme de verrouillage pour verrouiller la douille (5) susmentionnée. 5
9. Parapluie et/ou parasol amélioré selon la revendication 1, **caractérisé en ce que** la barre susmentionnée est pourvue d'une butée pour la douille (5) dans sa position la plus basse. 10
10. Parapluie et/ou parasol amélioré selon la revendication 1, **caractérisé en ce que** les bras (4) susmentionnés sont reliés à la toile (3) près du bord (7) de la toile (3). 15
11. Parapluie et/ou parasol amélioré selon la revendication 1, **caractérisé en ce que** la toile (3) susmentionnée, dans la position ouverte, est étendue de manière autoportante dans une forme convexe, la toile étant simplement sous contrainte de tension. 20
12. Parapluie et/ou parasol amélioré selon la revendication 6, **caractérisé en ce que** la douille (5) susmentionnée est appliquée de manière à pouvoir se déplacer entre le plan (12) passant par les extrémités (6) libres des bras (4) dans la position ouverte d'une part, et le sommet de la barre (2) susmentionnée d'autre part. 25





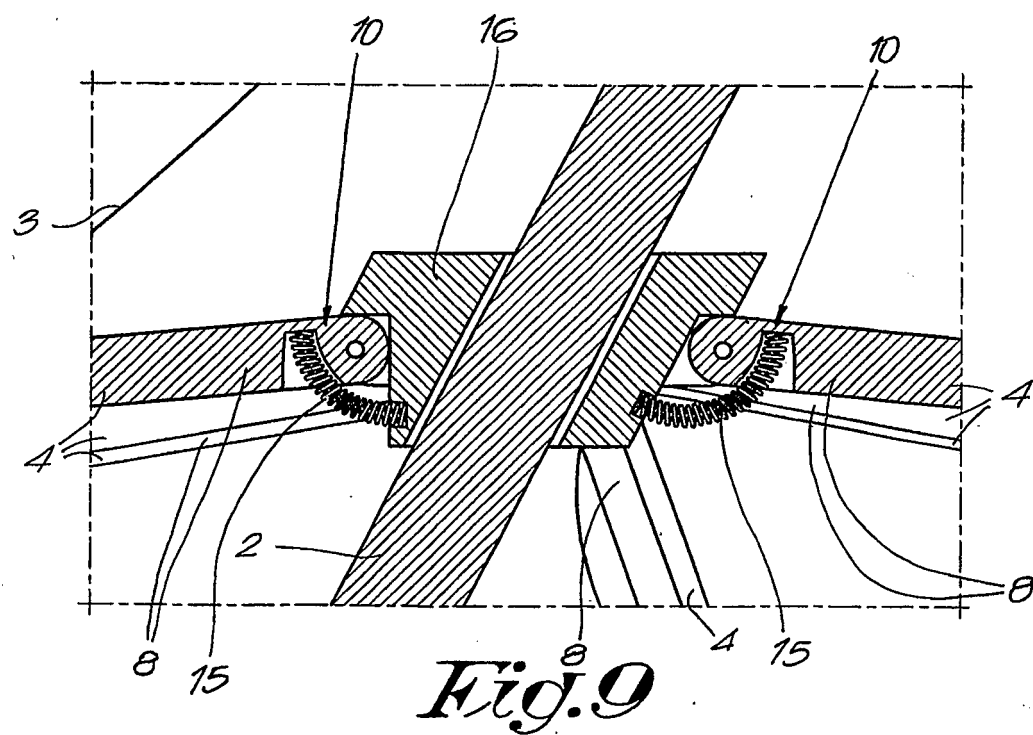
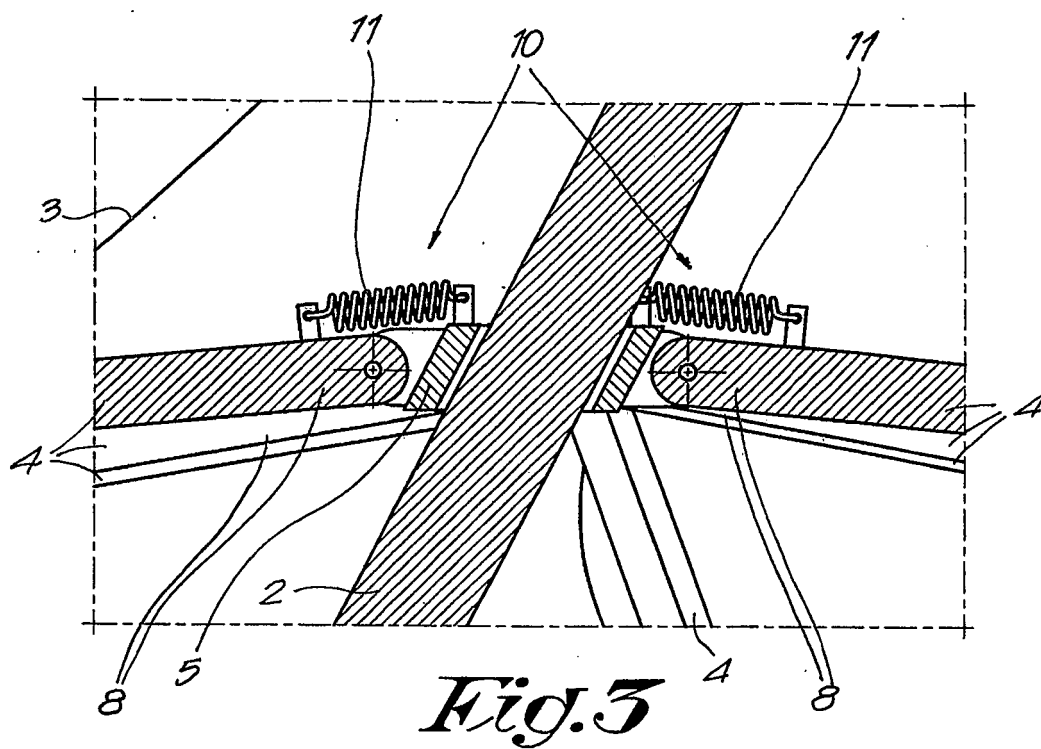
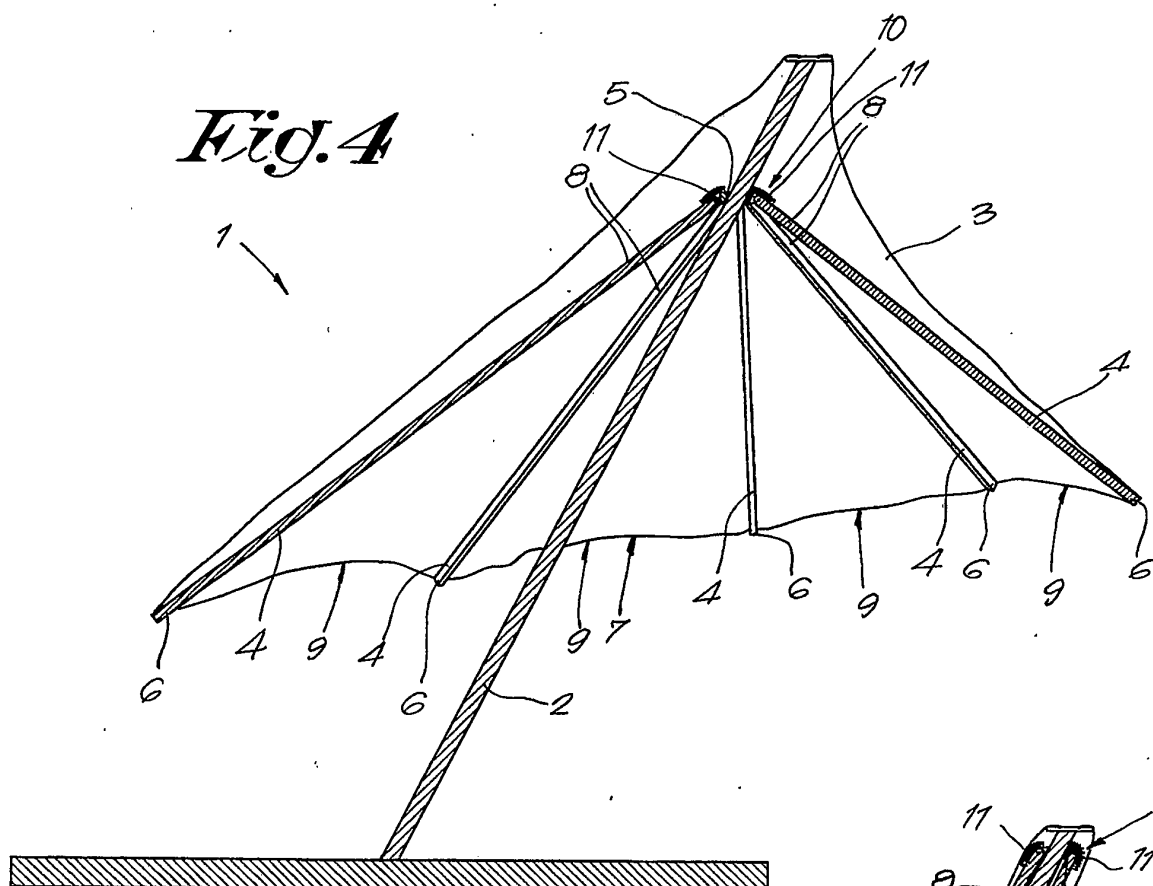


Fig.4



1 →

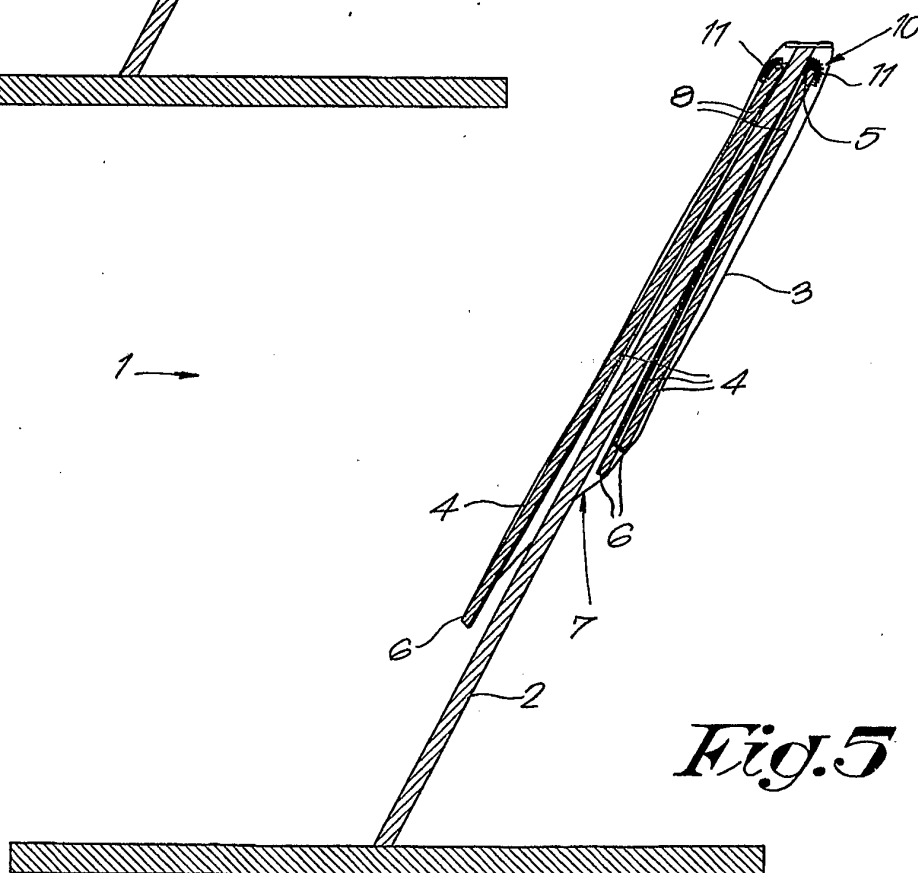


Fig.5

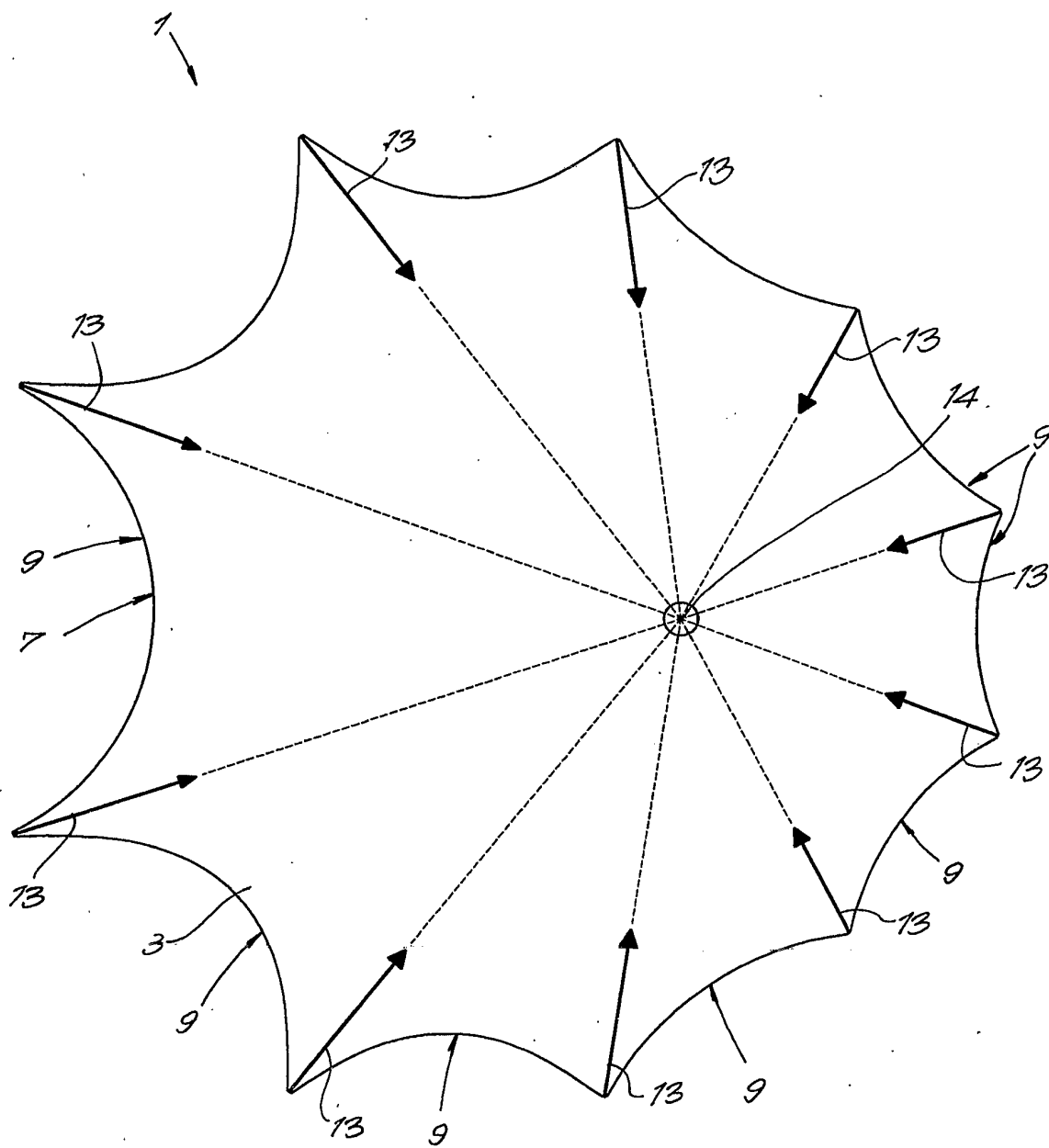
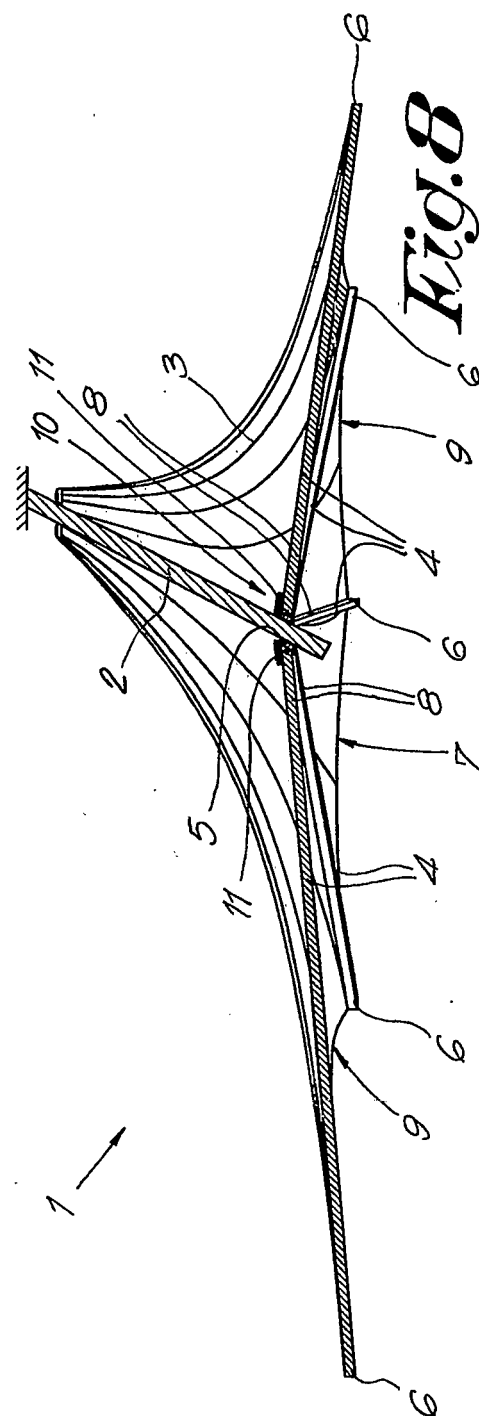
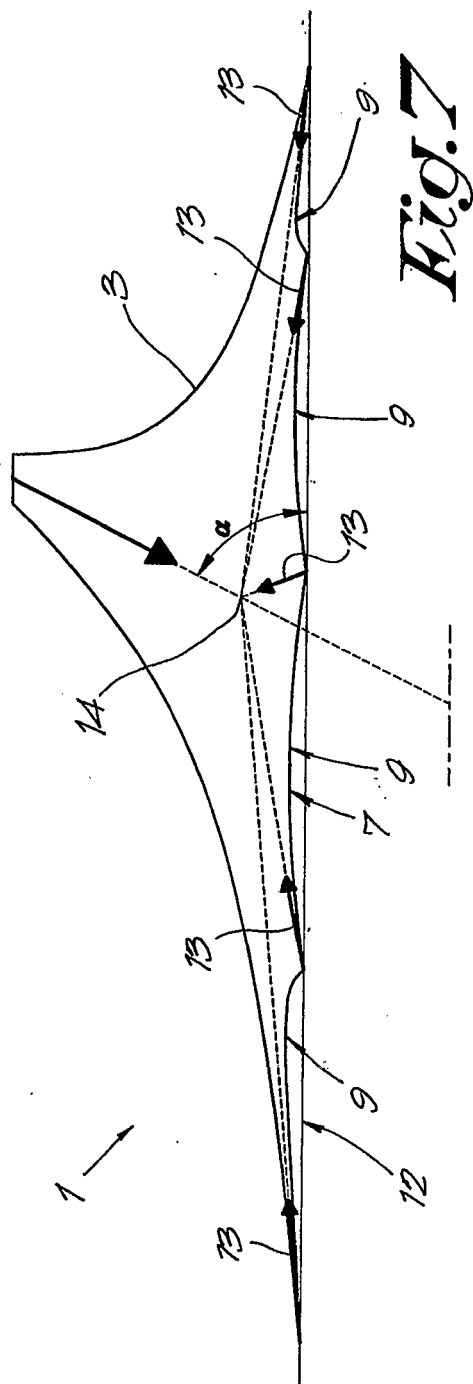


Fig. 6



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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