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(72) Inventor: **Brutsaert, Louis Marcel**  
**8930 Menen (BE)**

(74) Representative: **Donné, Eddy**  
**Bureau M.F.J. Bockstael nv**  
**Arenbergstraat 13**  
**2000 Antwerpen (BE)**

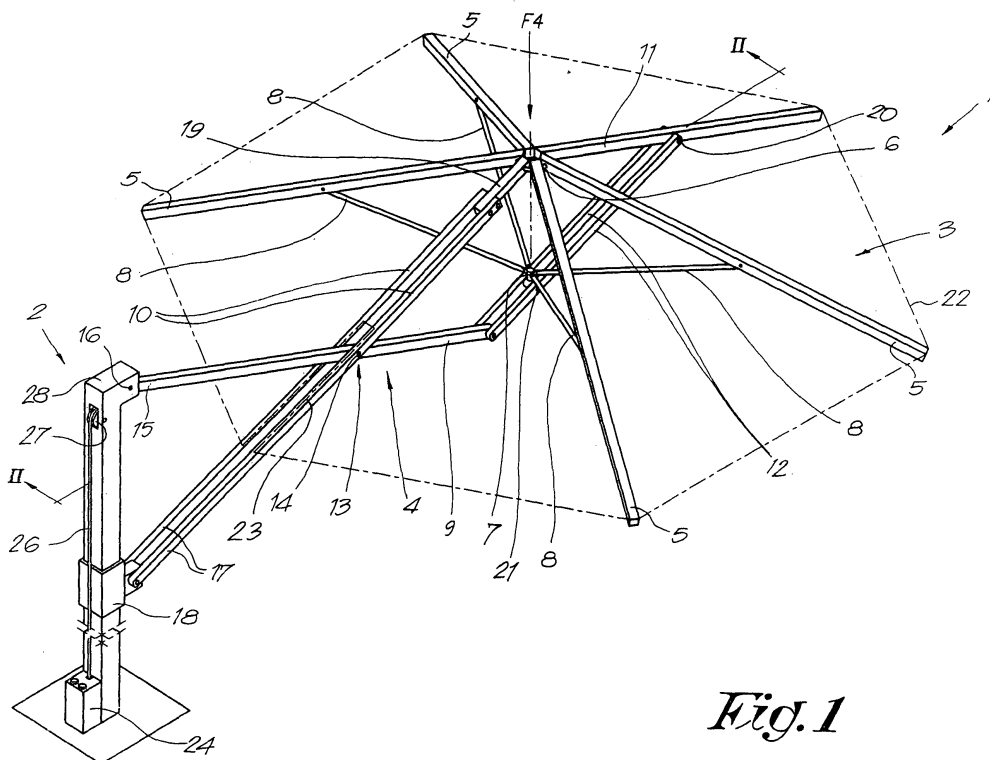
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(71) Applicant: **Brutsaert Trading, besloten  
vennootschap met  
beperkte aansprakelijkheid**  
**8930 Menen (BE)**

(54) **Sunshade, umbrella or the like**

(57) Sunshade or the like which mainly consists of a support (2) onto which is fixed a screen (3), characterized in that the above-mentioned screen (3) is fixed to the support (2) by means of a rod assembly (4) which is formed of four rods (9, 10, 11, 12) defining a parallelo-

gram, of which at least two adjacent rods, a first rod (9) and a second rod (10) respectively, are extended and are fixed to the above-mentioned support (2) with their free ends (15, 17), and in that at least one of these far ends (15, 17) is provided on the above-mentioned support (2) in a movable manner.



*Fig. 1*

## Description

**[0001]** The present invention concerns a sunshade, umbrella or the like of the type which consists of a support and a screen, whereby the support is situated next to the screen.

**[0002]** Sunshades and the like are known which mainly consist of a vertical support onto which is fixed a screen by means of an arm which is hinge-mounted to the support with one far end and which is hinge-mounted to the screen with its other far end.

**[0003]** With such known sunshades, the above-mentioned arm may hinge between a position whereby the arm is positioned horizontally next to the support and a position in which the arm extends crosswise in relation to the support.

**[0004]** The screen itself can hereby be put in an open or closed position when the arm is situated in the transverse position.

**[0005]** A disadvantage of such known sunshades and the like is that they must always comprise means for hinging the arm on the one hand and for opening the screen on the other hand, as a result of which such sunshades or the like are rather complex and fragile, and as a result of which opening or closing such known sunshades or the like is relatively time-consuming.

**[0006]** Another disadvantage of such known sunshades and the like is that, for their automation, two different drives must be provided, more particularly one for the hinging of the arm and another for opening the screen, which is relatively expensive and requires relatively much maintenance.

**[0007]** The aim of the present invention is to remedy one or several of the above-mentioned disadvantages.

**[0008]** To this end, the present invention concerns a sunshade or the like which mainly consists of a support onto which is fixed a screen which consists of bones which are hinge-mounted to each other on one far end, and of spokes which are also hinge-mounted to each other on one far end and which are connected to the above-mentioned bones on their other far end, whereby the above-mentioned screen is fixed to the support by means of a rod assembly which is formed of four rods defining a parallelogram, of which at least two adjacent rods are extended and are fixed to the above-mentioned support with their free ends, and whereby at least one of these far ends is provided on the above-mentioned support in a movable manner.

**[0009]** Preferably, at least one of the bones is hereby connected to one of the rods of the parallelogram, whereas at least one of the spokes is connected to another rod of the parallelogram.

**[0010]** An advantage of the present invention is that the screen can be brought from a folded position into a position of use with a single manipulation.

**[0011]** Indeed, by moving the far ends of the above-mentioned extended rods towards each other, which are fixed to the support, these rods are brought

from a practically horizontal position into a position against the support, and the other far ends of these rods are also moved towards each other, as a result of which the point in which the spokes of the screen come together and the point in which the bones of the screen come together are moved towards each other, such that the screen opens.

**[0012]** Another advantage of the present invention is that when automating such a sunshade, a single drive will suffice for folding or opening the screen.

**[0013]** Another advantage of the present invention is that the sunshade, thanks to its relatively simple construction and working, can be made relatively robust.

**[0014]** In order to better explain the characteristics of the present invention, the following preferred embodiments of a sunshade or the like according to the invention are given as an example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 is a view in perspective of a sunshade according to the invention;

figure 2 is a section according to line II-II in figure 1 to a larger scale;

figure 3 represents a similar view as figure 2, but with the sunshade in a folded position;

figure 4 represents a view according to arrow F4 in figure 1 to a smaller scale;

figure 5 represents a variant of figure 4, whereby several screens according to the invention are applied.

**[0015]** Figure 1 represents a sunshade 1 according to the invention which mainly consists of a support 2, which in this case is directed upward, and a screen 3 which is fixed to the support 2 by means of a rod assembly 4.

**[0016]** The above-mentioned screen 3 hereby mainly consists of bones 5 which are hinge-mounted to each other at one far end, for example by means of a ring 6, and of a flange 7 which is connected to the bones 5 by means of spokes 8.

**[0017]** The rod assembly 4 in this case consists of four rods 9, 10, 11 and 12 which are hinge-mounted to each other and which together define a parallelogram, whereby, in this case, the rods 10 and 12 are made double.

**[0018]** Two adjacent rods 9 and 10 of the above-mentioned rod assembly 4 are connected to each other at an angular point 13 of the parallelogram by means of a pivot 14, and they extend as of that angular point 13 up to the support 2.

**[0019]** The free end 15 of the first of both above-mentioned rods 9 and 10 is connected to the above-mentioned support 2 by means of a hinge pen 16, whereas the second of the above-mentioned rods 9 and 10 is, in this case, hinge-mounted to a carriage 18 with its free end 17 which is provided on the support 2 in a movable manner under the fastening point of the first rod 9.

**[0020]** This second rod 10 in this case forms one of

the bones 5 of the screen 3 and it is fixed to the above-mentioned ring 6 with its other far end 19.

**[0021]** Preferably, also the third rod 11 of the rod assembly 4, situated opposite to the above-mentioned first rod 9 in the parallelogram, has a length which is larger than the length of the side concerned of the parallelogram.

**[0022]** This third rod 11 is, in this case, hinge-mounted to the above-mentioned second rod 10 by means of the above-mentioned ring 6 and may be regarded as a bone of the above-mentioned screen 3.

**[0023]** The fourth rod 12 of the rod assembly 4 is connected to the third rod 11 with one far end, and it is hinge-mounted to the above-mentioned first arm 9 with its other far end.

**[0024]** To this fourth rod 12, at a distance from the hinge point 20 between the rods 11 and 12, is fixed the above-mentioned flange 7 by means of a pivot 21, such that the fourth rod 12 in this case forms the spoke supporting the bone which is formed by the above-mentioned third rod 11 of the rod assembly 4.

**[0025]** On the different bones 5 of the screen 3 can be provided a canvas 22 which is represented in the figures by means of a dashed line.

**[0026]** When the above-mentioned first rod 9 serves as a bone, depending on the size of the canvas 22, a slit 23 will preferably be provided in this canvas 22 extending at the height of the above-mentioned first rod 9 as of the place where the first and second above-mentioned rods 9-10 are connected to each other up to the addendum line of the canvas 22.

**[0027]** As is represented in figure 2, the above-described sunshade 1 or the like is preferably provided with means which make it possible to move the above-mentioned free far ends 15 and 17 of the first and second rod 9, 10 respectively, in relation to each other on the support 2.

**[0028]** In this case, these means consist of a drive 24 comprising a cable pulley 25 over which a cable 26 has been wound which is connected to the above-mentioned carriage 18 with one far end, whereby, depending on the position of the cable pulley 25, the cable 26 can be guided over one or several cable wheels 27.

**[0029]** As opposed to the representation in the figures, it is also possible, of course, to build in the above-mentioned means for moving the free far ends 15 and 17 of the first and second rod 9, 10 in the support 2, and to for example conceal the drive 24 in the pipe forming the vertical support 2.

**[0030]** It is clear that by the drive 24 is not necessarily meant a motor drive, but that also a manual drive equipped with a crank or any other manual operating mechanism is within the bounds of possibility.

**[0031]** The working of the above-described sunshade 1 or the like is simple and as follows.

**[0032]** In the folded position of the sunshade 1, as represented in figure 3, the free far ends 15 and 17 of the first and second rod 9, 10 are situated at a relatively large

mutual distance, in this case at the top and at the foot of the above-mentioned vertical support 2, whereby the parallelogram, formed by the rods 9 to 12, extends mainly vertically, such that the bones which are formed by the rods 10 and 11, and thus also all the other bones 5, are folded down, and the screen 3 is in a closed position.

**[0033]** In order to bring the screen 3 from this folded position into a position of use, it is sufficient to activate the above-mentioned drive 24 for the cable pulley 25 in one direction, as a result of which the carriage 18 and consequently the free far end 17 of the second rod 10 is moved towards the top 28 of the vertical support 2, and the distance between the free far ends 15 and 17 of the above-mentioned first and second rod 9-10 is reduced.

**[0034]** As a result of this reduction of the above-mentioned distance, the parallelogram is pushed in a predominantly horizontal position, as a result of which the screen 3 moves away from the support 2 and the angle between the first and the second rod 9-10 of the parallelogram becomes more acute, such that the screen 3 is unfolded.

**[0035]** In order to put the sunshade 1 or the like away again, it will suffice to drive the cable pulley 25 in the other sense or to let the drive 24 run freely, such that the screen can sag and furl under its own weight.

**[0036]** Depending on the construction and the geometric characteristics of the sunshade 1 or the like, the screen will not necessarily furl automatically under its own weight.

**[0037]** In this case can be provided for example a second cable working in the opposite sense of the first cable 26 and which, when the drive is activated to put away the screen, pulls the far end 17 of the rod 10 down.

**[0038]** Although in the figures, the hinge-mounted far end 15 has a fixed position in relation to the support 2 and the hinge-mounted far end 17 is provided on the support 2 in a movable manner, it is not excluded for the other far end 15 to be movable, whereas the far end 17 is fixed, or that even both far ends 15-17 are provided in a movable manner on the support 2.

**[0039]** Further, it is clear that the second and third rod 10-11 of the rod assembly 4 must not necessarily be applied as bones 5, but that a sunshade 1 or the like according to the invention can also be realized by connecting at least one of the bones 5 to one of the rods 9 to 12 of the parallelogram, whereas at least one of the spokes 8 is connected to another rod 9 to 12, preferably an opposite rod, of the parallelogram. One of the rods 9-10-11-12 can be made as a bone or vice versa, whereas a second rod can be made as a spoke, or vice versa.

**[0040]** Finally, figure 5 represents a variant of a sunshade 1 or the like according to the invention, whereby several screens 3 are fixed to one support 2 by means of rod assemblies 4 which are all connected to one or several carriages 18 on the support 2, whereby in the case of a single carriage, a common drive 24 can be applied.

**[0041]** 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, a sunshade or the like according to the invention can be realized according to different variants while still remaining within the scope of the invention.

### Claims

1. Sunshade or the like which mainly consists of a support (2) onto which is fixed a screen (3) which consists of bones (5) which are hinge-mounted to each other on one far end, and of spokes (8) which are also hinge-mounted to each other on one far end and which are connected to the above-mentioned bones (5) on their other far end, **characterized in that** the above-mentioned screen (3) is fixed to the support (2) by means of a rod assembly (4) which is formed of four rods (9, 10, 11, 12) defining a parallelogram, of which at least two adjacent rods, a first rod (9) and a second rod (10) respectively, are extended and are fixed to the above-mentioned support (2) with their free ends (15, 17), and whereby at least one of these far ends (15, 17) is provided on the above-mentioned support (2) in a movable manner.
2. Sunshade or the like according to claim 1, **characterized in that** at least one of the bones (5) is connected to at least one of the rods (9-12) of the parallelogram, whereas at least one of the spokes (8) is connected to another rod (9-12) of the parallelogram.
3. Sunshade or the like according to claim 1, **characterized in that** the support (2) is a vertical support (2).
4. Sunshade or the like according to claim 1, **characterized in that** the first extended rod (9) is hinge-mounted to the support (2), whereas the second extended rod (10) is hinge-mounted to the support (2) with one far end (17) in a movable manner under the fastening point of the above-mentioned first rod (9).
5. Sunshade or the like according to claim 1, **characterized in that** the above-mentioned second rod (10) is hinge-mounted to the far ends of the bones (5), which are hinge-mounted to each other.
6. Sunshade according to claim 5, **characterized in that** the above-mentioned second rod (10) is a bone.
7. Sunshade or the like according to claim 1, **characterized in that** a third rod (11) of the rod assembly (4) is hinge-mounted to the above-mentioned far ends of the bones (5) with one far end.
8. Sunshade or the like according to claim 7, **characterized in that** the third rod (11) is a bone.
9. Sunshade or the like according to claim 1, **characterized in that** the spokes (8) are hinge-mounted to the remaining fourth rod (12) of the rod assembly (4) with their far ends which are connected to each other.
10. Sunshade or the like according to claim 9, **characterized in that** the fastening point of the spokes (8) at the fourth rod (12) is situated at a distance from a hinge point (21) between the above-mentioned third and fourth rod (11, 12).
11. Sunshade or the like according to claim 10, **characterized in that** the fourth rod (12) is a spoke.
12. Sunshade or the like according to claim 1, **characterized in that** the above-mentioned second arm (10) is fixed to the support (2) by means of a carriage (18) which is provided on the support (2) in a movable manner.
13. Sunshade or the like according to claim 1, **characterized in that** it is provided with means which make it possible to move the far ends (15, 17) of the extended rods (9, 10) in relation to each other on the support (2).
14. Sunshade or the like according to claims 8 and 9, **characterized in that** the above-mentioned means are formed of a cable pulley (25) which is provided with a drive (24) around which is wound a cable (26) which is connected to the above-mentioned carriage (18) with one far end.

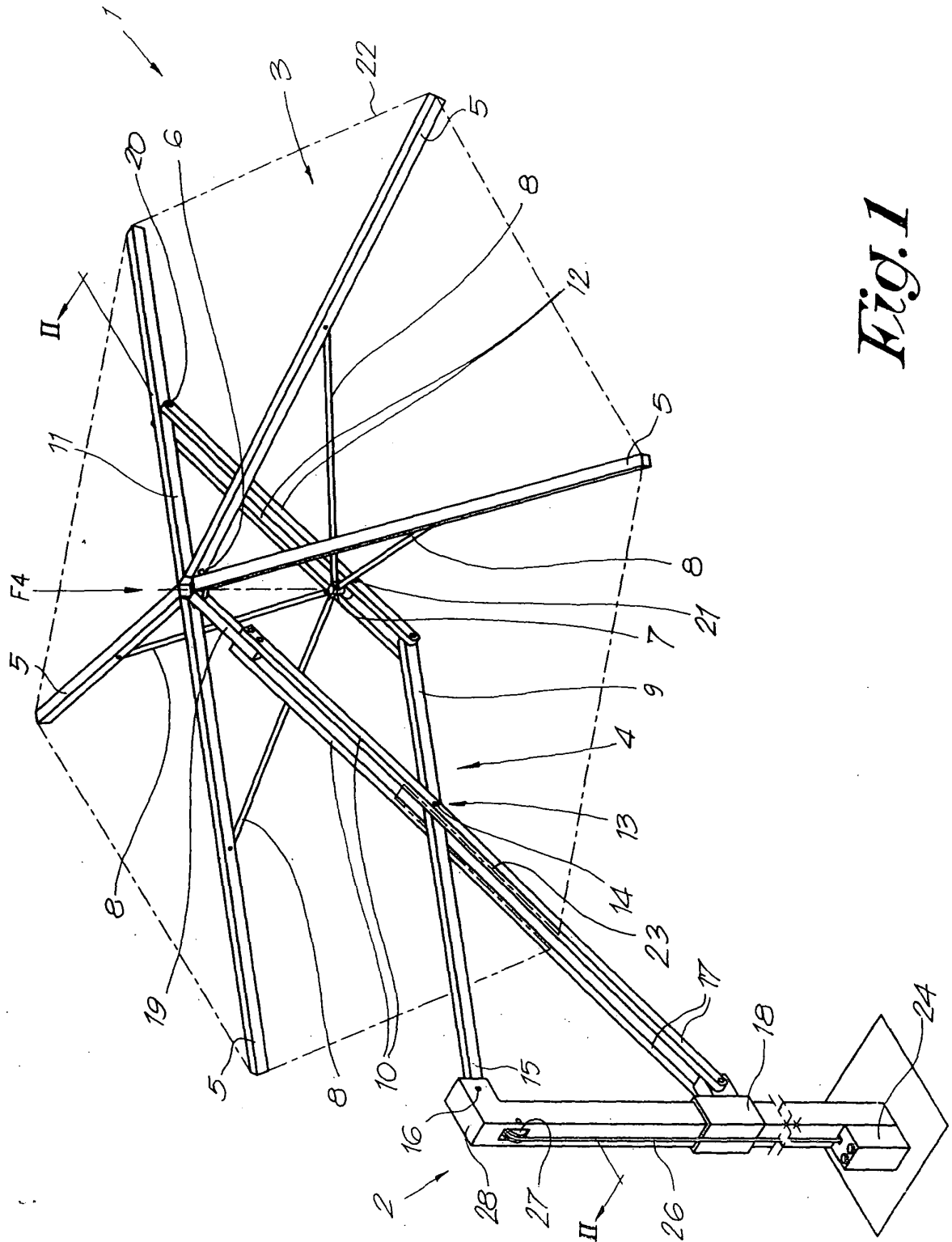
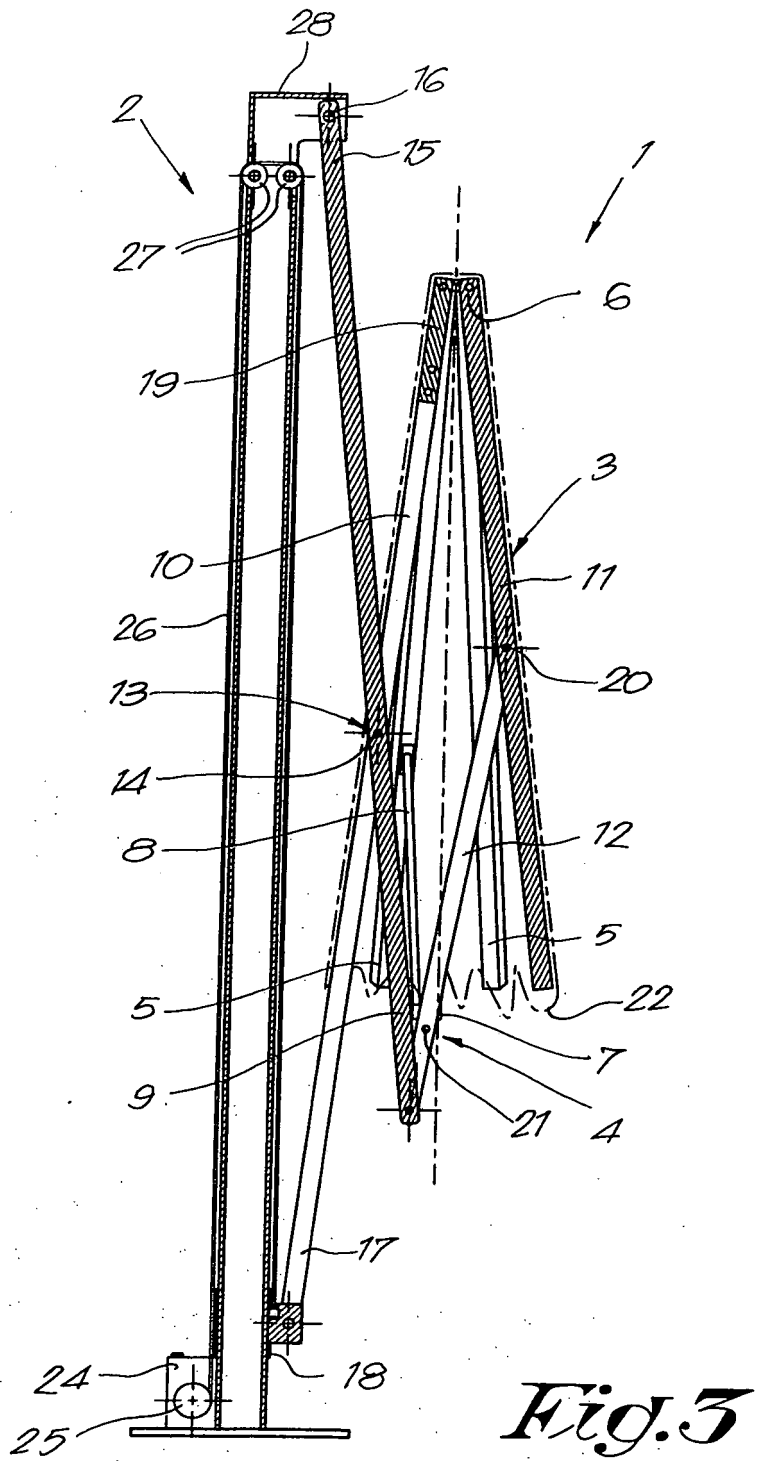
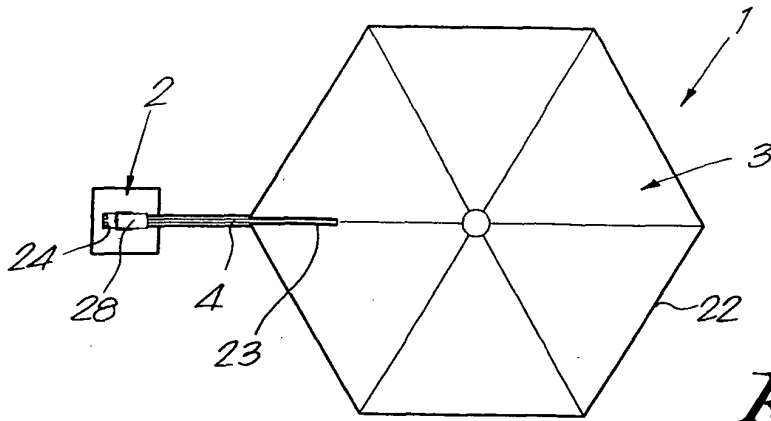


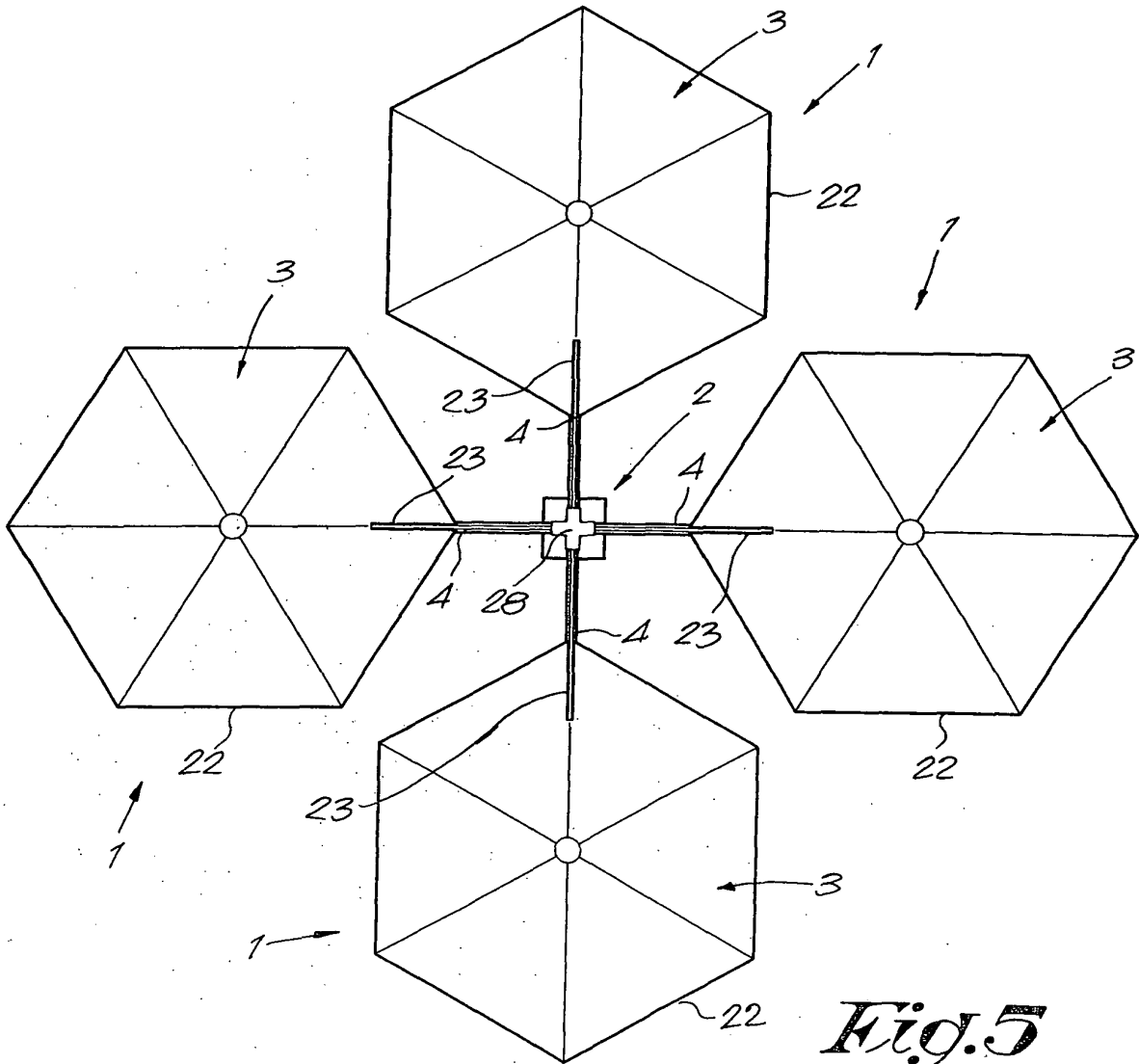
Fig. 1







*Fig. 4*



*Fig. 5*