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(54) **UMBRELLA**

(57) Umbrella comprising a support structure (1) and a laminar body (2) coupled to a foldable framework (1a), which is part of the support structure (1), by means of anchoring devices (4). The anchoring devices (4) comprise plates (10) and anchoring elements (11), fitted into first through holes (12) of said plates (10), into second holes (13) of the radial rods (3), and into third holes (14) of the laminar bodies (2), securing and retaining portions

(2a) of the laminar body (2) between the plates (10) and areas of the radial rods (3) of the foldable framework (1a). The plates (10) are fixed with respect to the radial rods (3) by means of said anchoring elements (11), ensuring the securing and fastening of the perimetral area of the laminar body (2) to the first end segments of the radial rods (3).

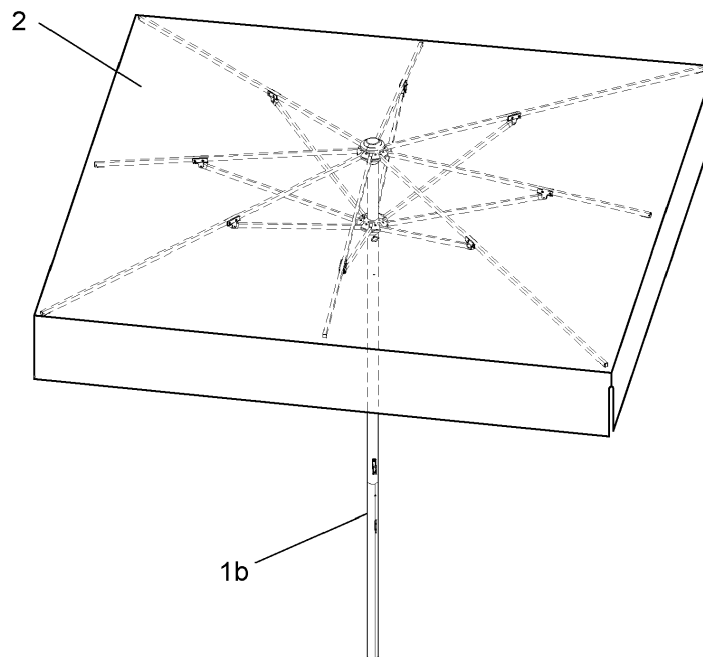


FIG. 1

Description**OBJECT OF THE INVENTION**

[0001] As expressed in the title of this specification, the present invention relates to an umbrella comprising a support structure and a cloth laminar body which is coupled to a foldable framework which is part of the support structure; wherein the laminar body is attached to end segments of radial rods of the foldable framework by means of anchoring devices which prevent the cloth laminar body from getting accidentally or unduly unhooked and furthermore enables an easy and comfortable use of the umbrella, maintaining stability both in a folded position and in an unfolded position.

TECHNICAL FIELD

[0002] The anchoring device of the cloth laminar body is applicable in the industry dedicated to the manufacturing of umbrellas, and by extension parasols, intended mainly for the hospitality sector.

TECHNICAL PROBLEM TO BE RESOLVED AND BACKGROUND OF THE INVENTION

[0003] As is known, a wide variety of umbrellas and parasols with different features, sizes, and functions is available on the market.

[0004] In conventional umbrellas and parasols, the radial rods often separate from the cloth laminar body, making it difficult to open same. This means that there is a need to open the umbrella again with the possibility a radial rod breaking, which is poorly fitted or connected in the cloth laminar body.

[0005] Friction that wears away and even ends up tearing the cloth laminar body is generated in conventional umbrellas and parasols. In conventional umbrellas and parasols, as the radial rods have a greater clearance with respect to the connections thereof in the perimetral area of the cloth laminar body, said radial rods experience greater movement, thereby generating a quick misalignment.

[0006] It is difficult to open conventional umbrellas and parasols and keep them stable in the open position in climates with very strong wind.

[0007] In conventional umbrellas and parasols, the cloth laminar bodies thereof gradually wear away and tear due to improper opening or adverse weather conditions. Expenses for returns and repairs therefore increase.

[0008] It should be pointed out that non-recycled PET fabric is shiny and looks artificial such that, besides being a warm and non-breathable fabric, it is a material that is not pleasant to the touch.

DESCRIPTION OF THE INVENTION

[0009] For the purpose of achieving the objectives and preventing the drawbacks mentioned in the preceding sections, the invention proposes an umbrella comprising a support structure and a laminar body which is coupled to a foldable framework which is part of the support structure; wherein a perimetral area of the laminar body is anchored to first end segments of radial rods of the foldable framework by means of anchoring devices; and wherein the support structure further comprises a pole to which the foldable framework is coupled in an articulated manner by means of a movable head and by means of a fixed head located above the movable head.

[0010] The anchoring devices comprise plates and anchoring elements configured to fasten said plates to the radial rods, securing and retaining portions of the laminar body between the plates and areas of the radial rods.

[0011] The anchoring elements are fitted into first through holes of the plates, into second holes of the radial rods, and into third holes of the laminar bodies; wherein the plates are fixed with respect to the radial rods by means of said anchoring elements, ensuring the securing and fastening of the perimetral area of the laminar body to the first end segments of the radial rods.

[0012] The anchoring elements comprise elements selected from screws and rivets.

[0013] In one embodiment of the invention, the portions of the laminar body which are secured by means of the anchoring devices are part of a pocket-like enveloping structure.

[0014] The laminar body comprises a polyester fabric originating from recycled polyethylene (PET).

[0015] The umbrella of the invention seeks to facilitate the use of the umbrellas when opening same given that, with the anchoring devices installed in the umbrella, the radial rods are permanently fastened in the cloth laminar body and several problems related to an improper opening of the umbrella: scratches, tearing of the cloth laminar body, etc., are prevented.

[0016] Moreover, since the umbrella is manufactured from recycled PET (polyethylene terephthalate), a material that is polluting for the environment is able to be recycled.

[0017] PET is one of the most widely consumed raw materials in the world. About 90% of beverage packaging are manufactured with PET. This has created a great abundance of this material which unfortunately ends up in landfills and in the bottom of the ocean, causing pollution and damaging marine species and sea birds.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

Figure 1 shows a perspective view of the umbrella object of the invention. The umbrella comprises a support structure and a cloth laminar body.

Figure 2 shows a perspective view of the support structure including radial rods among the elements thereof.

Figure 3 shows a perspective view of one of the radial rods wherein an anchoring device for fastening or attaching the cloth laminar body to the end segments of each of the radial rods is highlighted.

Figure 3a shows a detailed view of the application of the anchoring device for fastening the laminar body to the radial rod.

Figure 4 shows a plan view of a portion of the umbrella.

Figure 5 shows a perspective view of an upper portion of the support structure comprising a pole and a foldable framework including the radial rods.

DESCRIPTION OF AN EXEMPLARY EMBODIMENT OF THE INVENTION

[0019] Taking into consideration the reference numbers used in the figures, the umbrella comprises a support structure 1, preferably made of aluminium, and a cloth laminar body 2 which is coupled to a foldable framework 1a which is part of the support structure 1; wherein the laminar body 2 is attached to first end segments of radial rods 3 of the foldable framework 1a by means of anchoring devices 4.

[0020] The support structure 1 further comprises a pole 1b to which the foldable framework 1a is coupled.

[0021] The foldable framework 1a comprises radial rods 3, intermediate bars 5, and a movable head 6 having an annular structure which is coupled and guided about the pole 1b, such that first ends of the intermediate bars 5 connect with the radial rods 3 by means of first articulated connections 5a, while second ends of the intermediate bars 5, opposite from the first ends, connect with the movable head 6 by means of second articulated connections 5b.

[0022] The cloth laminar body 2 is attached at the centre thereof to a fixed head 7 integral with an upper end of the pole 1b, whereas the perimetral area of the laminar body 2 is attached to the first end segments of the radial rods 3 through the anchoring devices 4. In turn, second end segments of the radial rods 3, opposite from the first end segments, are connected with the fixed head 7.

[0023] When folding and unfolding the umbrella, the assembly of the foldable framework 1a is mobilised, with the movable head 6 moving along the pole 1a, such that once the required position of the umbrella is reached, said foldable framework 1a is immobilised by means of a rod element 8 which is inserted into a perforation 9 of the pole 1b.

[0024] The anchoring devices 4 for fastening the laminar body 2 to the radial rods 3 comprise plates 10 and anchoring elements 11 which are inserted through first through holes 12 of the plates 10 and through second holes 13 of the radial rods 3, such that the plates 10 are immobilised with respect to the radial rods 3 by means

of said anchoring elements 11 in order to ensure the securing and fastening of the perimetral area of the laminar body 2 to the first end segments of the radial rods 3.

[0025] To this end, portions 2a of the laminar bodies 2 are placed between the first end segments of the radial rods 3 and the plates 10, such that once the anchoring devices 4 are installed, said portions 2a of the laminar bodies 2 are retained and secured between the plates 10 and areas of the radial rods 3. Obviously, the anchoring elements 11 cross through the portions 2a of the laminar bodies 2a including third holes 14 to this end.

[0026] The portions 2a of the laminar body 2 are part of a pocket-like enveloping structure which is attached to the laminar body 2, and can even be part of the laminar body 2 itself.

[0027] The anchoring elements 11 may comprise screws or rivets, without ruling out other elements.

[0028] Each anchoring device 4 may comprise one or more anchoring elements 11, although it preferably comprises two anchoring elements 11 as shown in the figures.

[0029] Therefore, the anchoring devices 4 permanently fasten the cloth laminar body 2 to the radial rods 3 while the umbrella is closed or open and even during the folding and unfolding process, such that the following is achieved with the invention.

- Fast and easy opening of the umbrella. In conventional umbrellas, the radial rods often separate from the cloth laminar body, making it difficult to open same. This means that there is a need to open the umbrella again with the possibility a radial rod, which is poorly fitted or connected in the cloth laminar body, breaking.
- The cloth laminar body 2 is prevented from tearing, such that since the radial rods 3 are fitted and fixed by means of the anchoring devices 4 of the invention, the radial rods 3 stay adhered and fastened to the cloth laminar body 2, preventing the movement thereof. In this manner, friction that may wear away and even end up tearing the cloth laminar body is prevented. In conventional umbrellas and parasols, as the radial rods have a greater clearance with respect to the connections thereof in the perimetral area of the cloth laminar body, said rods experience greater movement, thereby generating a quick misalignment.
- The anchoring devices 4 provide stability to the umbrella. All this is a result of the radial rods 3 being fastened to the cloth laminar body 2 by the anchoring devices 4. This novelty is effective, particularly, in climates with very strong wind. It should be mentioned that it is difficult to open conventional umbrellas and to keep them stably open in climates with very strong wind, such that the anchoring devices 4 of the invention confer the umbrella with stability.
- Longer useful life of the umbrella, such that the customer is more satisfied by the high quality of the cloth laminar body 2, which takes longer to deteriorate.

- Lower cost. Many incidents with respect to conventional umbrellas, wherein the cloth laminar bodies thereof gradually wear away and tear due to improper opening or adverse weather conditions, are solved. Expenses for returns and repairs are therefore avoided.

[0030] Moreover, the umbrella is manufactured with a textile material originating from recycled PET through the following process.

[0031] The PET material from bottles and other containers is ground, from which small PET flakes are obtained which are ready to be transformed in a separation and re-polymerisation process. As a result of this re-polymerisation process, those small ground flakes are converted into polyester fibres which will in turn be transformed into thread for manufacturing fabrics.

[0032] This PET recycling process provides the following advantages:

- The polyester obtained from recycled PET, basically polypropylene, is ten times stronger than normal polyester.
- Higher resistance to friction, fatigue, and opening due to the hardness of the recycled polyester.
- Higher wind resistance, achieving greater stability of the product in areas with extreme climates.
- Increased speed of the textile painting process due to a simpler and faster ink impregnation.
- Lower product manufacturing costs due to the use of less ink and to quicker production processes.
- With the same stitches per centimetre in the recycled polyester and in normal polyester a higher tear resistance is achieved.
- Increased light fastness, preventing the ink from fading.
- Higher thermal fatigue resistance due to the use of recycled PET.
- The same product is manufactured using waste which is initially an environmental problem.
- Power consumption around 40% lower than normal manufacturing.
- Reduced use of fossil-based energy sources and raw materials such as petroleum.

[0033] It should be pointed out that non-recycled PET fabric is shiny and looks artificial such that, besides being a warm and non-breathable fabric, it is a material that is not pleasant to the touch. In contrast, the polyester obtained from recycled PET is a material that is shinier and more pleasant to the touch.

Claims

1. An **umbrella** comprising a support structure (1) and a laminar body (2) which is coupled to a foldable framework (1a) which is part of the support structure

(1); wherein a perimetral area of the laminar body (2) is anchored to first end segments of the radial rods (3) of the foldable framework (1a) by means of anchoring devices (4); and wherein the support structure (1) further comprises a pole (1b) to which the foldable framework (1a) is coupled in an articulated manner by means of a movable head (6) and by means of a fixed head (7) located above the movable head (6); **characterised in that:**

- the anchoring devices (4) comprise plates (10) and anchoring elements (11) configured to fasten said plates (10) to the radial rods (3), securing and retaining portions (2a) of the laminar body (2) between the plates (10) and areas of the radial rods (3); wherein the anchoring elements (11) are fitted into first through holes (12) of the plates (10), into second holes (13) of the radial rods (3), and into third holes (14) of the laminar bodies (2); and wherein the plates (10) are fixed with respect to the radial rods (3) by means of said anchoring elements (11), ensuring the securing and fastening of the perimetral area of the laminar body (2) to the first end segments of the radial rods (3).

2. The **umbrella** according to claim 1, wherein the anchoring elements (11) comprise elements selected from screws and rivets.
3. The **umbrella** according to any one of the preceding claims, wherein the portions (2a) of the laminar body (2) are part of a pocket-like enveloping structure.
4. The **umbrella** according to any one of the preceding claims, wherein the laminar body (2) comprises a polyester fabric originating from recycled polyethylene terephthalate (PET).
5. The **umbrella** according to any one of the preceding claims, wherein the laminar body (2) is fastened at the centre thereof to the fixed head (7) attached to the pole (1b) of the support structure (1).

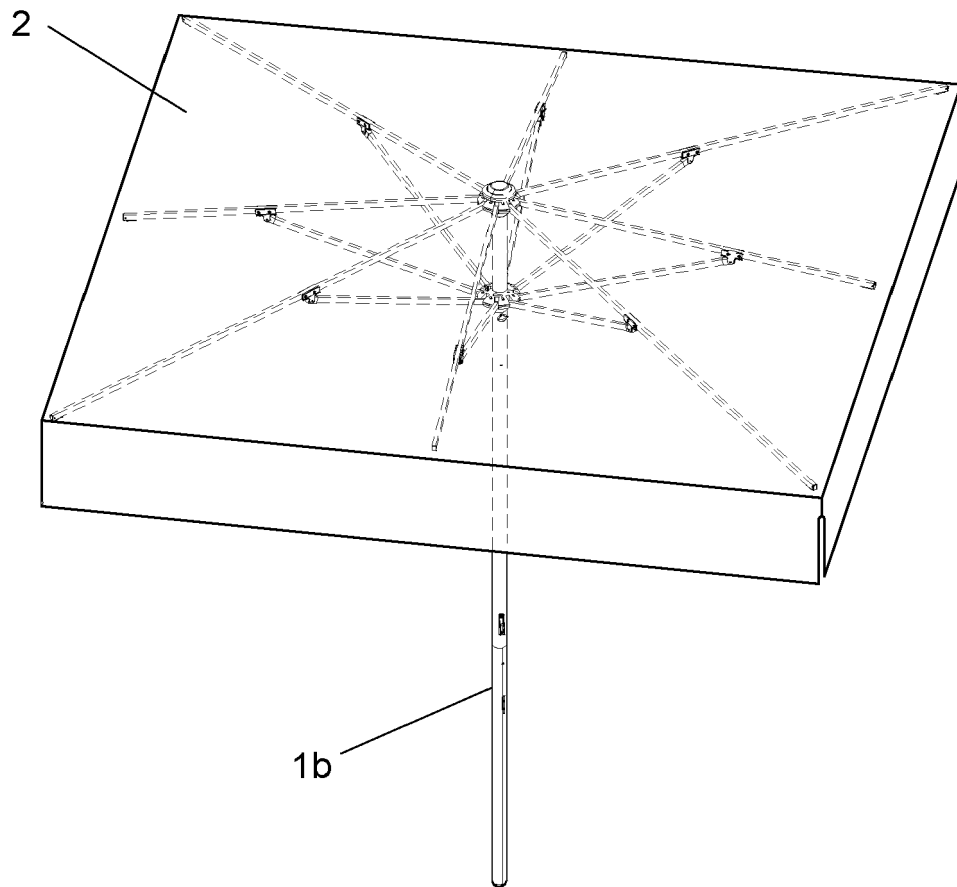


FIG. 1

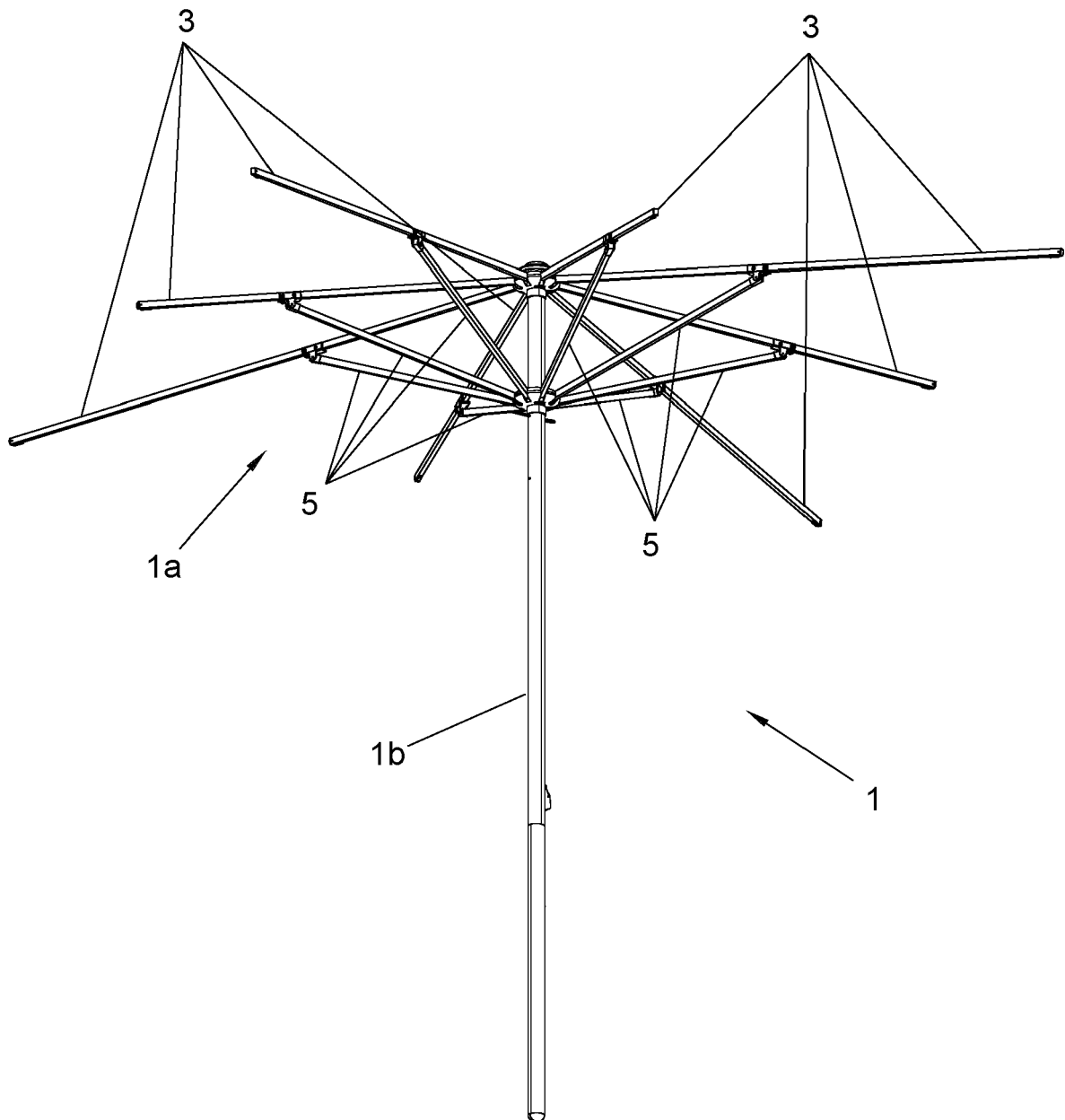


FIG. 2

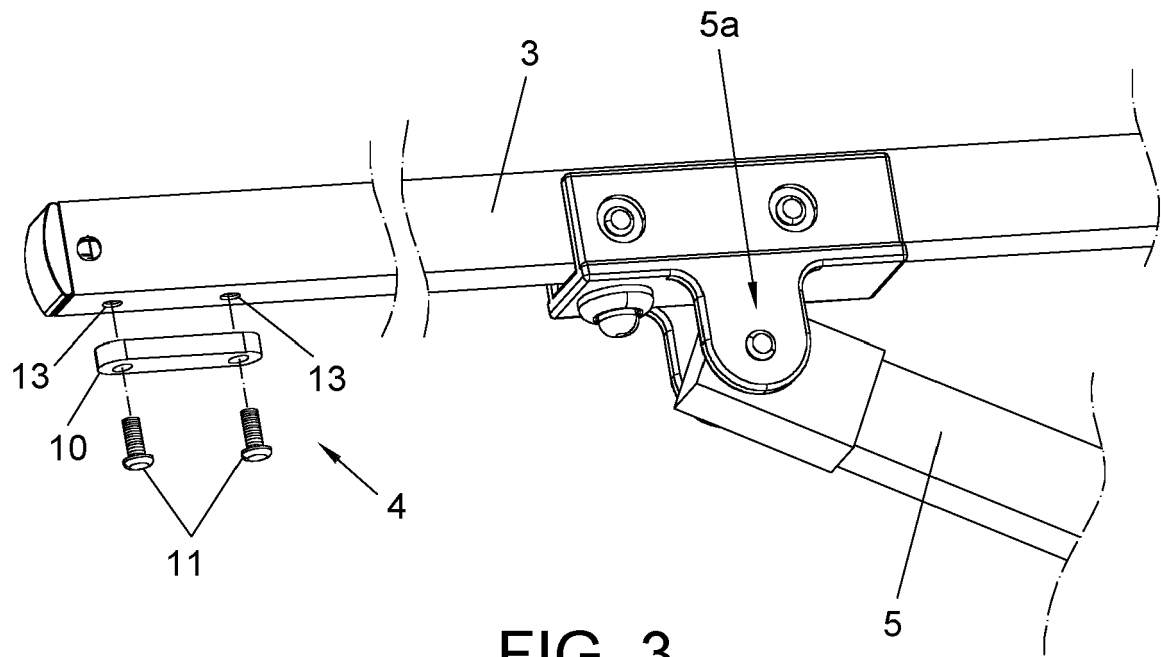


FIG. 3

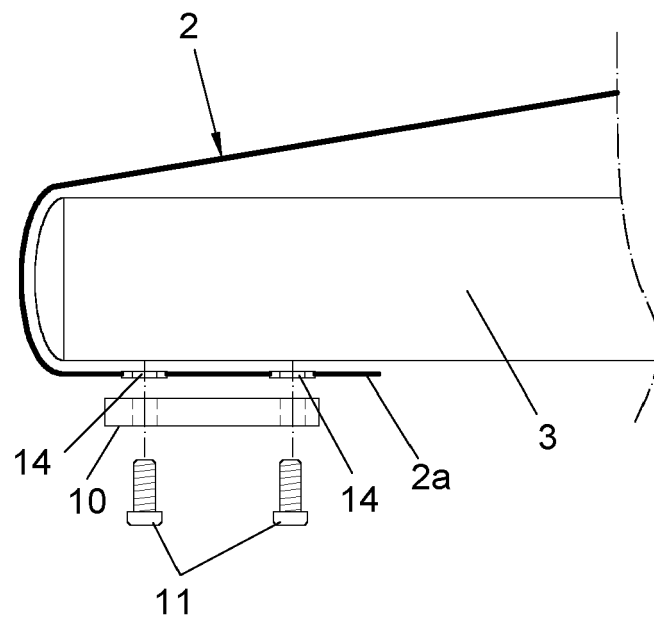


FIG. 3a

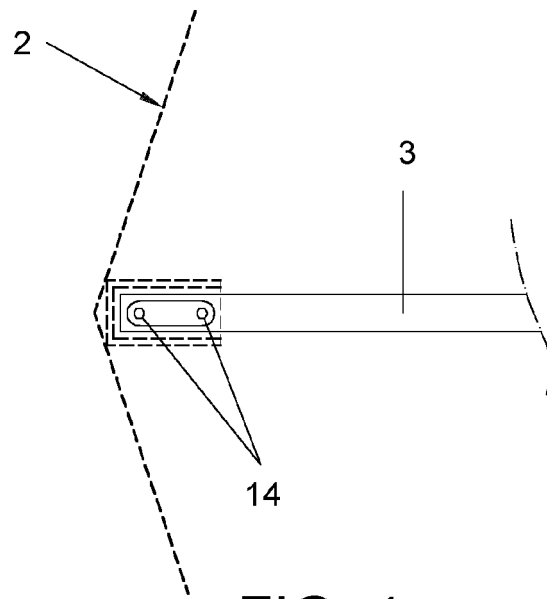


FIG. 4

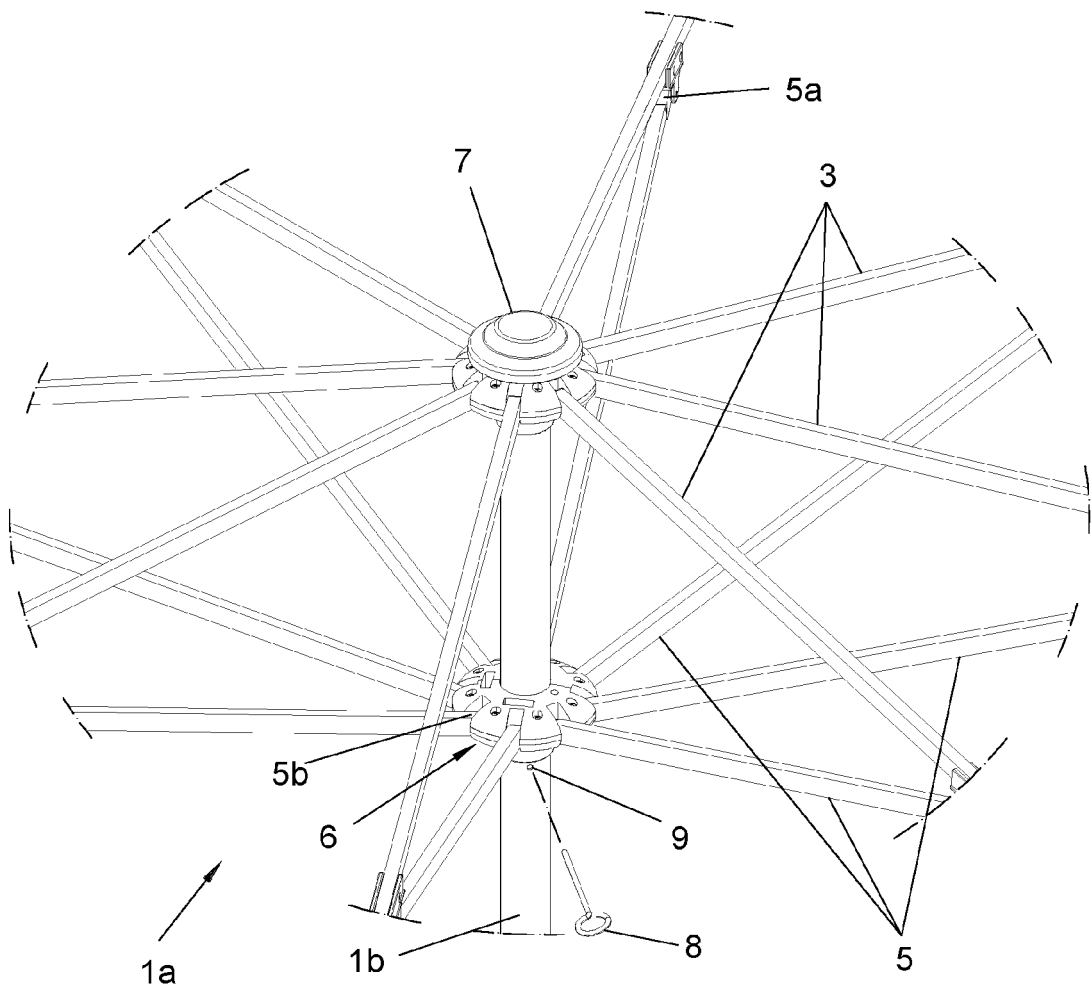


FIG. 5



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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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