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(54) **SUN UMBRELLA ROD**

(57) A sun umbrella rod comprising a rod body (1), wherein the rod body (1) is configured to be tubular; a decorative surface (11) is arranged on a side surface of the rod body (1), a decorative plate (2) is arranged at a position where the rod body (1) corresponds to the decorative surface (11), and the rod body (1) is divided into a reinforcing section and a supporting section in the transverse direction; the decorative surface (11) is located at the supporting section, and the inner side of the reinforcing section is provided with reinforcing ribs; a light-emitting body is arranged on the decorative surface (11) and/or the decorative plate (2); through arranging a detachable decorative plate (2) on the outer side of the rod body (1), a mass production is achieved; the decorative plate (2) may be selected to match with the rod body (1) according to actual needs, namely, changing the decorative elements according to different application scenarios such that a low cost is achieved.

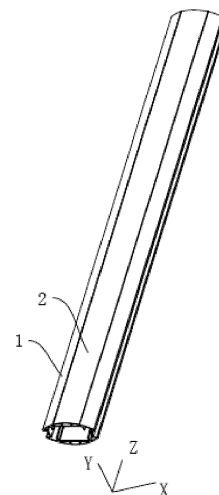


Figure 1

Description

TECHNICAL FIELD

[0001] This invention generally relates to the technical field of sun umbrellas, and more particularly, to a sun umbrella rod.

BACKGROUND

[0002] A sun umbrella is an object used for protecting a user from the rain or hot sun. Because sun umbrellas are extensively used, they may also serve as tools for advertisement and promotion. However, for most of the sun umbrellas sold on the market, the decorative elements are arranged on the umbrella surface. When a decorative element, an advertisement or a logo needs to be arranged on the umbrella rod, it needs to be pasted or printed on the surface of the umbrella rod, resulting in difficult and troublesome operation. Especially, for a small-scale production, the cost is very high.

SUMMARY

[0003] The purpose of the present invention is to provide a novel sun umbrella rod, wherein a decorative plate having a detachable structure is arranged on the surface of a rod body such that advertisements, logos or patterns are allowed to be printed on the decorative plate. Namely, a user or a manufacturer may separately process or replace the surface of the decorative plate according to actual needs, and the entire rod body may be produced in a one-time forming process, capable of satisfying requirements of different users while achieving a low cost.

[0004] To achieve the above purpose, the present invention adopts the following technical solution: a sun umbrella rod comprises a rod body, wherein the rod body is configured to be tubular, wherein a decorative surface is arranged on a side surface of the rod body, wherein a decorative plate is arranged at a position where the rod body corresponds to the decorative surface, wherein the rod body is divided into a reinforcing section and a supporting section in the transverse direction, wherein the decorative surface is located at the supporting section, and the inner side of the reinforcing section is provided with reinforcing ribs.

[0005] In another embodiment of the present invention, an outer side of the rod body facing the decorative surface is provided with a blocking edge, clamping grooves are formed between the blocking edge and an edge of the decorative surface, and two sides of the decorative plate are clamped into the clamping grooves.

[0006] In another embodiment of the present invention, the clamping groove extends along the length direction of the rod body and penetrates through the two ends of the rod body.

[0007] In another embodiment of the present invention, a gap is reserved between the decorative plate and the

decorative surface, a supporting plate is arranged on an inner side of the decorative plate, and the supporting plate abuts against the decorative surface.

[0008] In another embodiment of the present invention, there are a plurality of supporting plates.

[0009] In another embodiment of the present invention, the interior of the decorative plate is hollow, and one surface of the decorative plate is attached to the decorative surface.

[0010] In another embodiment of the present invention, a portion of the rod body that corresponds to the decorative surface is configured to be arc-shaped, the outer surface of the decorative plate is configured to be arc-shaped as well, and the rod body, the blocking edge and the decorative plate are in smooth transition.

[0011] In another embodiment of the present invention, a light-emitting body is arranged on the decorative surface and/or the decorative plate, and the light-emitting body may also be a light strip, a light bead, fluorescent powder or a reflective strip, etc.

[0012] In another embodiment of the present invention, the reinforcing ribs extend to two ends of the rod body along the length direction of the rod body.

[0013] In another embodiment of the present invention, the outer side surface of the reinforcing section is provided with a sliding groove, wherein the sliding groove is formed by making the rod body recess inwards.

[0014] Compared with the prior art, the present invention has the following advantages: through arranging a detachable decorative plate on the outer side of the rod body, a mass production is achieved; the decorative plate may be selected to match with the rod body according to actual needs, namely, changing the decorative elements according to different application scenarios such that a low cost is achieved; after being used for a prolonged period, the worn decorative elements may be replaced at any time; by means of the light-emitting body arranged in the rod body, the decorative elements become aesthetically appealing; moreover, advertisements and logos may be exhibited on the sun umbrella rod.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

Figure 1 is a schematic diagram illustrating a three-dimensional structure of the sun umbrella rod of the present invention;

Figure 2 is a schematic diagram illustrating a three-dimensional structure of the umbrella rod of the present invention;

Figure 3 is a schematic diagram illustrating an enlarged structure of portion A in Figure 2;

Figure 4 is a schematic diagram illustrating a sectional view of the sun umbrella rod of the present invention;

Figure 5 is a schematic diagram illustrating an exemplary structure of the sun umbrella rod having a

light-emitting body of the present invention.

[0016] Marking Instructions of the Drawings: 1-Rod Body, 11-Decorative Surface, 12-Blocking Edge, 121-Clamping Groove, 13-Reinforcing Rib, 14-Sliding Groove, 2-Decorative Plate, 21-Supporting Plate, 22-Insertion Strip, 3-Light Strip.

DETAILED DESCRIPTION

[0017] Referring to Figures 1-5, the technical solution of the sun umbrella rod in the embodiment of the present invention is further elaborated.

[0018] In the description of the present invention, it should be noted that, orientations or positions indicated by the terms "central", "horizontal (X)", "longitudinal (Y)", "vertical (Z)", "length", "width", "thickness", "up", "down", "front", "rear", "left", "right", "perpendicular", "top", "bottom", "inside", "outside", "clockwise" and "counterclockwise" are based on the orientations or positions shown in the figures, or the orientations or positions that the product of the present invention is commonly placed during use, or the orientations or positions that are commonly understood by those skilled in the art. They are merely for the convenience of describing and simplifying the description of the present invention, but not indicating or implying that the equipment or element referred to must have a specific orientation, or be constructed and operated in a specific orientation. Thus, they cannot be understood as a limitation of the present invention.

[0019] In addition, the terms "first" and "second" are used for descriptive purposes only and cannot be understood as the indication or implication of relative importance or the implication of the number of indicated technical features. Thus, a technical feature defined as "first" or "second" may explicitly or implicitly comprises one or more technical features. In the description of the present invention, unless it is clearly stated, "a plurality of" means two or more.

[0020] A sun umbrella rod comprises a rod body 1, wherein the rod body 1 is configured to be tubular. A decorative surface 11 is arranged on a side surface of the rod body 1, an outer side of the rod body 1 facing the decorative surface 11 is provided with a blocking edge 12, and clamping grooves 121 are formed between the blocking edge 12 and an edge of the decorative surface 11. A decorative plate 2 is arranged at a position where the rod body 1 corresponds to the decorative surface 11, and two sides of the decorative plate 2 are clamped into the clamping grooves 121.

[0021] In a normal condition, for a large outdoor sun umbrella, to ensure structural strength, reduce weight and prevent rusting, the rod body 1 is primarily made of aluminum. After the rod body 1 is processed and formed, a secondary forming cannot be performed in the later process. Therefore, in the present invention, the rod body 1 is produced in a unified assembly line such that an efficient production is achieved. Moreover, various dec-

orative plates 2 may be installed according to actual needs, and normally, the decorative plate 2 is made of a material possessing a certain elasticity and capable of being deformed. Because it is easy to draw a pattern or perform carving on an acrylic plate, the decorative plate 2 may also adopt an acrylic plate. In later use, the decorative plate may be taken out from the clamping grooves 121 for replacement, and it is therefore unnecessary to change the entire rod body 1. In particular, as a sun umbrella used outdoors, after being exposed to the sun for a prolonged period, the worn decorative plate 2 needs a quick and timely replacement.

[0022] In this embodiment, the two sides of the decorative plate are clamped into the clamping grooves 121 of the rod body 1 to realize a convenient replacement of the decorative plate 2. However, those skilled in the art may know that, for example, a single-side clamping may also be adopted, or a buckle (hook) may be arranged on the bottom surface of the decorative plate for interacting with a clamping groove formed in the surface of the rod body. Alternatively, a clamping groove may be formed in the bottom surface of the decorative plate, and the surface of the rod body may be provided with a buckle (a hook) or other structures to achieve the disassembly and assembly of the decorative plate.

[0023] Referring to Figures 3 and 4, in this embodiment, the blocking edge 12 and the rod body 1 are integrally formed, namely, the blocking edge 12 and the rod body 1 being formed into a rod. Compared with the size of the entire decorative surface 11 or the decorative plate 2, the size of the clamping groove 121 is very small. The decorative plate may be taken out from or installed into the clamping groove 121 by means of a slight deformation of the decorative plate 2.

[0024] Preferably, the clamping groove 121 extends along the length direction of the rod body 1 and penetrates through the two ends of the rod body 1.

[0025] Referring to Figures 1 and 2, in this embodiment, the clamping groove 121 and the decorative surface 11 penetrate through the two ends of the rod body 1 along the length direction, and when the decorative plate 2 is disassembled and assembled, the decorative plate 2 may be taken out from or installed into the two ends of the rod body 1.

[0026] In another embodiment of the present invention, a gap is reserved between the decorative plate 2 and the decorative surface 11, a supporting plate 21 is arranged on an inner side of the decorative plate 2, and the supporting plate 21 abuts against the decorative surface 11.

[0027] Namely, the inner side of the decorative plate 2 is not attached to the decorative surface 11, and the supporting plate 21 is used to ensure the stability of the decorative plate 2 while preventing the decorative plate 2 from being pressed inward. At this point, the outer side of the decorative plate 2 may be a non-planar structure capable of producing a three-dimensional decoration effect.

[0028] According to actual needs, there may be a plu-

ality of supporting plates 21.

[0029] After the decorative plate 2 and the decorative surface 11 are spaced apart from each other, a light-emitting body may be arranged in the space. Referring to Figure 5, in this embodiment, for example, taking a light strip 3 as the light-emitting body, the lighting bar 3 is inserted into the space. When the light strip 3 is turned on, the pattern on the surface of the decorative plate 2 becomes brighter, and when the decorative plate 2 is configured to be transparent, the light strip 3 can also be used for illumination. Preferably, the light-emitting body is installed on the decorative surface 11 and can be attached to the decorative surface by using a buckle or an adhesive. In this way, when the decorative surface 11 is replaced, it is unnecessary to move the light-emitting body.

[0030] Definitely, in other embodiments, the light-emitting body may also be a light strip, a light bead, fluorescent powder or a reflective strip, etc.

[0031] In another embodiment of the present invention, the interior of the decorative plate 2 is hollow, and one surface of the decorative plate 2 is attached to the decorative surface 11.

[0032] At this point, the decorative plate 2 is configured to be a tubular structure. Namely, the upper opening of the decorative plate 2 having the supporting plate 21 is closed, and the hollow structure of the decorative plate 2 is not communicated with the decorative surface 11. When the light-emitting body is inserted, it is directly placed inside the decorative plate 2.

[0033] In another embodiment of the present invention, the decorative plate 2 may also adopt a solid structure or a structure having discontinuous holes.

[0034] Referring to Figures 3 and 4, in one embodiment of the present invention, a portion of the rod body 1 that corresponds to the decorative surface 11 is configured to be arc-shaped, the outer surface of the decorative plate 2 is configured to be arc-shaped as well, and the rod body 1, the blocking edge 12 and the decorative plate 2 are in smooth transition.

[0035] The cross section of the entire rod body 1 and the cross section of the decorative plate 2 form an ellipse. Definitely, in actual use, as long as the movement of a sliding structure on the rod body 1 is not hindered, the outer side of the decorative plate 2 may adopt other shapes. Thus, various designs of the decorative plate 2 are realized.

[0036] Moreover, as long as a good supporting effect can be achieved, the rod body 1 may also be, for example, a circular shape, a square shape, a polygonal shape or a special-shaped structure.

[0037] To achieve a smooth transition between the side surface of the decorative plate 2 and the blocking edge 12 after the side surface of decorative plate 2 is clamped into the clamping groove 121, preferably, the side edge of the decorative plate 2 is provided with an insertion strip 22. A drop height is formed between the insertion strip 22 and the main body of the decorative

plate 2, and after the insertion strip 22 is clamped into the clamping groove 121, the blocking edge 12 is accommodated by means of the drop height.

[0038] Referring to Figure 4, in this embodiment, preferably, the rod body 1 is divided into a reinforcing section b and a supporting section c in the transverse direction, wherein the decorative surface 11 is located at the supporting section, and the inner side of the reinforcing section is provided with reinforcing ribs 13. The reinforcing ribs 13 extend to two ends of the rod body 1 along the length direction of the rod body 1. In this embodiment, there are two reinforcing sections and one supporting section, namely, the supporting section being located between the two reinforcing sections. The entire rod body 1 is arranged in a symmetrical manner along the transverse direction, wherein a plurality of decorative surfaces 11 are arranged according to actual needs. The arrangement of the reinforcing ribs 13 is capable of increasing the bending resistance of the entire rod body 1 in the length direction while preventing the rod body 1 from being bent and broken under the action of an external force such as a strong wind.

[0039] In another embodiment, the decorative surface 11 may be arranged at other positions other than the supporting section.

[0040] Preferably, in this embodiment, the outer side surface of the reinforcing section b is provided with a sliding groove 14, wherein the sliding groove 14 is formed by making the rod body 1 recess inwards. The sliding groove is used for limiting the moving path of the sliding structure on the rod body 1, and meanwhile, the interior of the rod body 1 is recessed, so that the rod body 1 has higher bending strength.

[0041] The above are merely preferred embodiments of the present invention, and the scope of the present invention is not limited to the embodiments described above. All technical solutions obtained under the idea of the present invention shall fall into the scope of the present invention. It should be noted that various improvements and modifications may be made by those skilled in the art without departing from the principles of the present invention. Therefore, these improvements and modifications shall also fall into the scope of the present invention.

Claims

1. A sun umbrella rod **characterized by** comprising: a rod body (1), wherein the rod body (1) is configured to be tubular, wherein a decorative surface (11) is arranged on a side surface of the rod body (1), wherein a decorative plate (2) is arranged at a position where the rod body (1) corresponds to the decorative surface (11), wherein the rod body (1) is divided into a reinforcing section and a supporting section in the transverse direction, wherein the decorative surface (11) is located at the supporting section,

and wherein the inner side of the reinforcing section is provided with reinforcing ribs (13).

2. The sun umbrella rod of claim 1, wherein an outer side of the rod body (1) facing the decorative surface (11) is provided with a blocking edge (12), wherein clamping grooves (121) are formed between the blocking edge (12) and an edge of the decorative surface (11), and wherein two sides of the decorative plate (2) are clamped into the clamping grooves (121). 5
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3. The sun umbrella rod of claim 2, wherein the clamping groove (121) extends along the length direction of the rod body (1) and penetrates through the two ends of the rod body (1). 15
4. The sun umbrella rod of claim 2, wherein a gap is reserved between the decorative plate (2) and the decorative surface (11), wherein a supporting plate (21) is arranged on an inner side of the decorative plate (2), and wherein the supporting plate (21) abuts against the decorative surface (11). 20
5. The sun umbrella rod of claim 4, wherein there are a plurality of supporting plates (21). 25
6. The sun umbrella rod of claim 2, wherein the interior of the decorative plate (11) is hollow, and wherein one surface of the decorative plate (2) is attached to the decorative surface (11). 30
7. The sun umbrella rod of claims 3-5, wherein a portion of the rod body (1) that corresponds to the decorative surface (11) is configured to be arc-shaped, wherein the outer surface of the decorative plate (2) is configured to be arc-shaped as well, and wherein the rod body (1), the blocking edge (12) and the decorative plate (2) are in smooth transition. 35
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8. The sun umbrella rod of claims 3-5, wherein a light-emitting body is arranged on the decorative surface (11) and/or the decorative plate (2), and wherein the light-emitting body may also be a light strip (3), a light bead or fluorescent powder. 45
9. The sun umbrella rod of claim 1, wherein the reinforcing ribs (13) extend to two ends of the rod body (1) along the length direction of the rod body (1). 50
10. The sun umbrella rod of claim 9, wherein the outer side surface of the reinforcing section is provided with a sliding groove (14), and wherein the sliding groove (14) is formed by making the rod body (1) recess inwards. 55

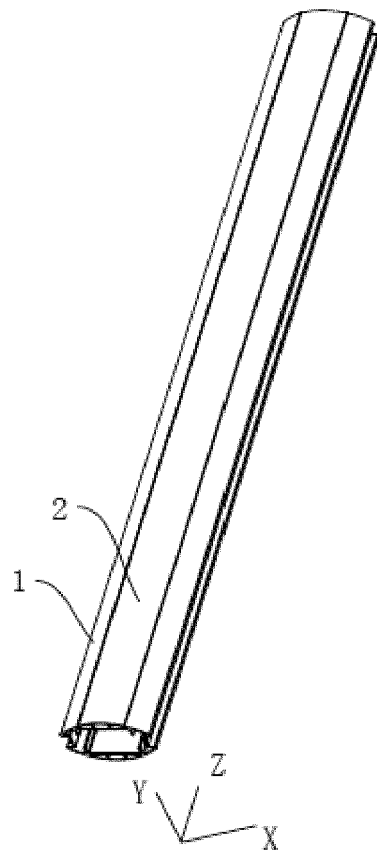


Figure 1

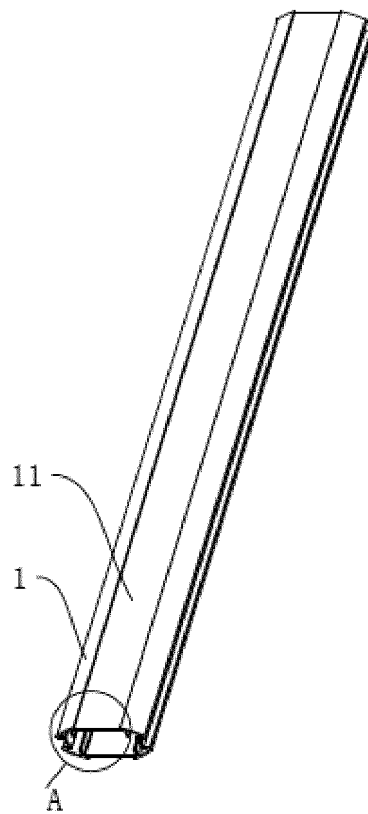
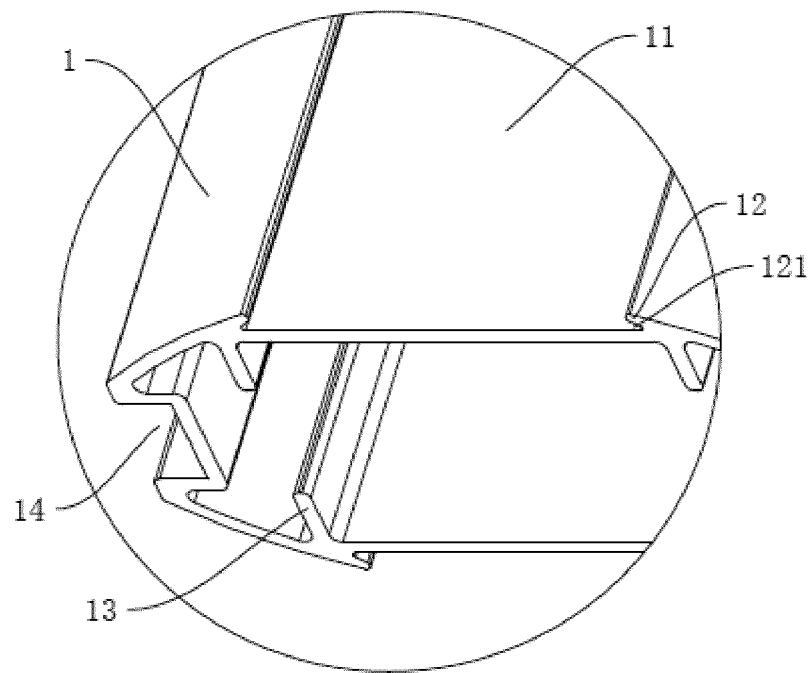


Figure 2



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Figure 3

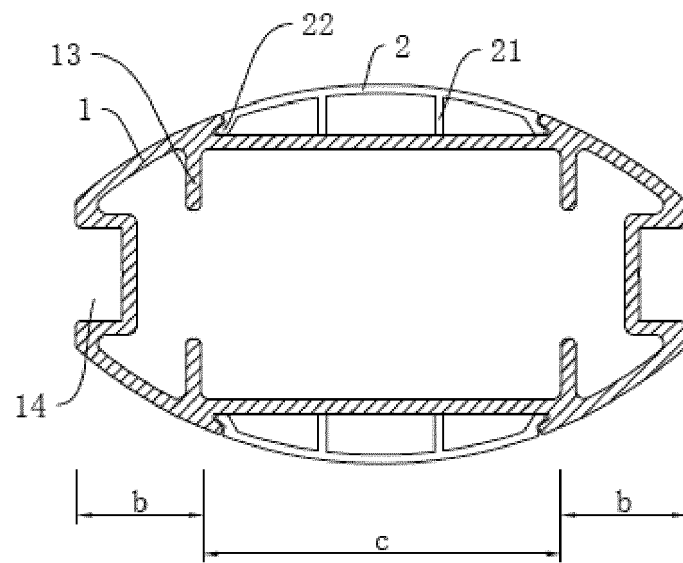


Figure 4

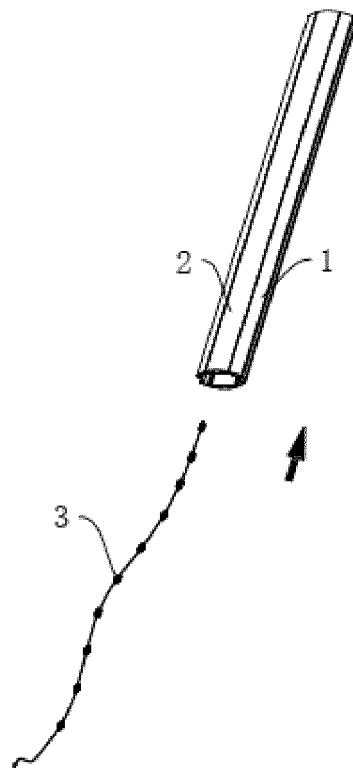


Figure 5



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Application Number

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The present search report has been drawn up for all claims			
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