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Pan et al.

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(54) **OUTDOOR UMBRELLA WITH LIGHTING ARRANGEMENT**

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(52) **U.S. Cl.** **135/16; 135/20.1; 135/98; 135/910; 362/102**

(58) **Field of Search** 135/16, 20.1, 21, 135/910, 98, 99, 90, 91; 362/102, 234, 249

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Primary Examiner—Carl D. Friedman

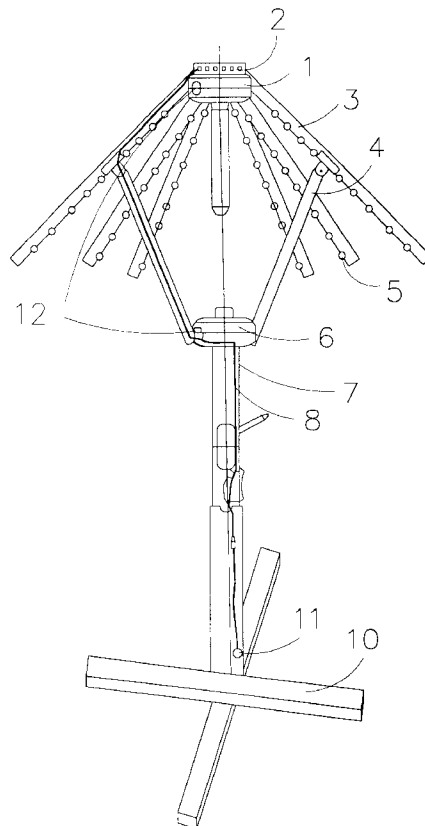
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(57) **ABSTRACT**

An outdoor umbrella with lighting arrangement includes a plurality of illuminating units each including an electrical extension mounted on a mounting slot of an awning tube of the outdoor umbrella and at least an illuminating connector having a replaceable illuminator mounted thereon electrically mounted on the electrical extension. The illuminating units are electrically connected together at an upper casing of the outdoor umbrella and electrically extended to a switchable power supply. So, when the outdoor umbrella is unfolded, the lighting arrangement is capable of illuminating an area under the outdoor umbrella.

14 Claims, 3 Drawing Sheets



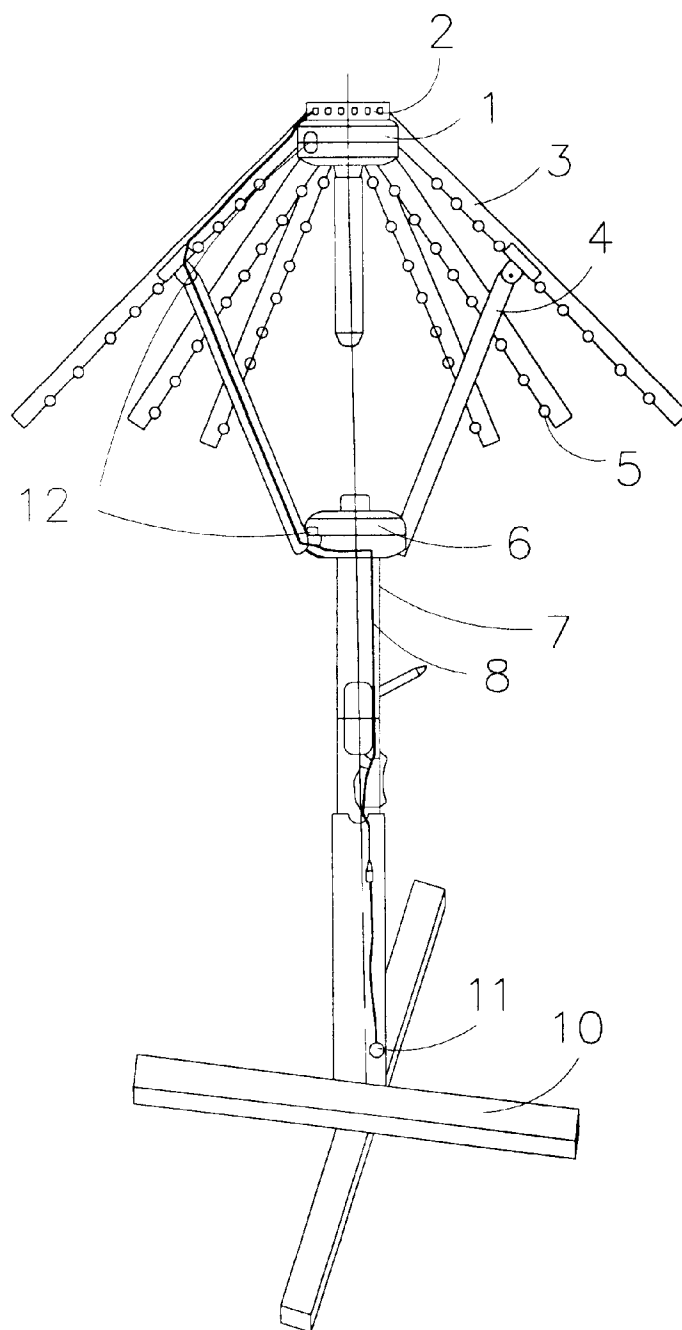


FIG.1

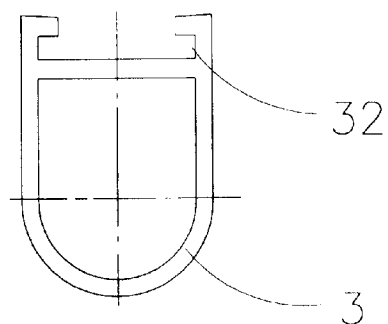


FIG. 2

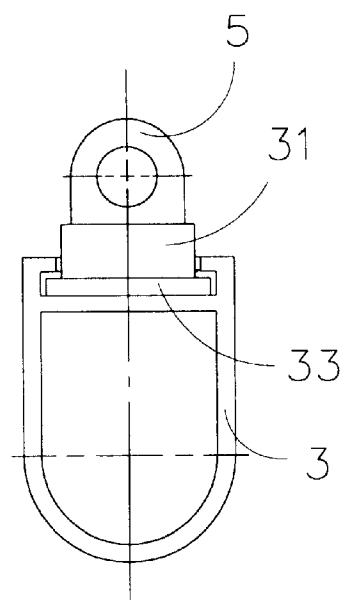


FIG. 4

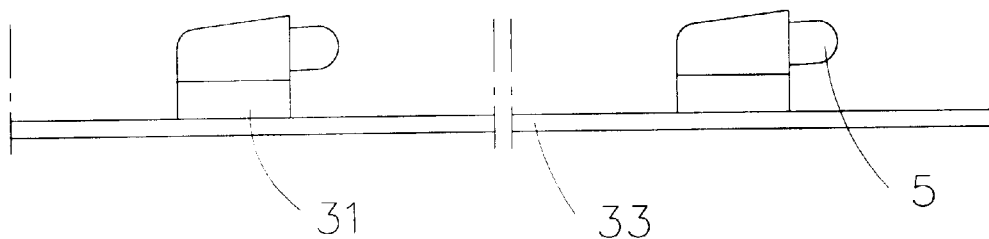


FIG. 3

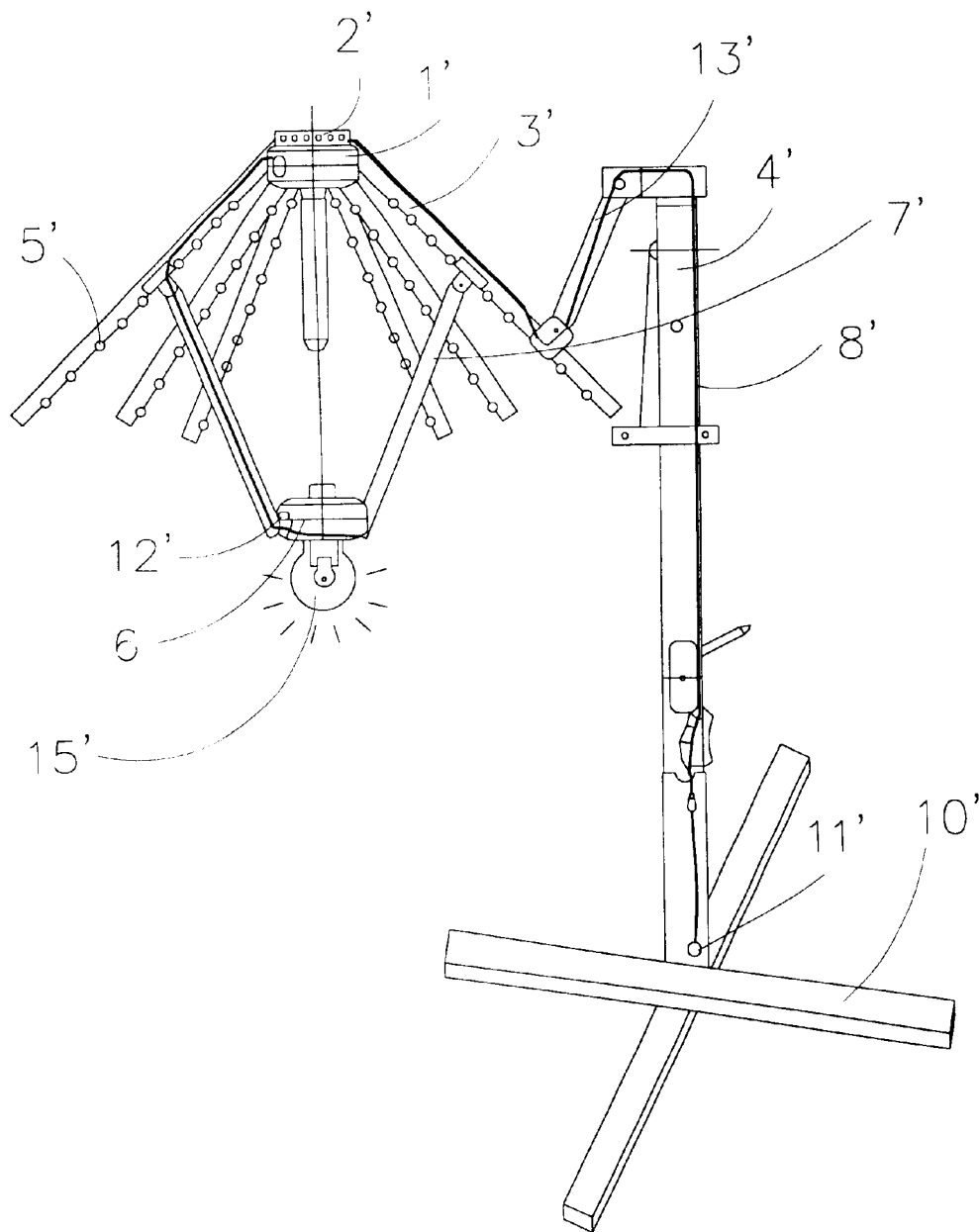


FIG.5

OUTDOOR UMBRELLA WITH LIGHTING ARRANGEMENT

BACKGROUND OF THE PRESENT INVENTION

1. Field of Invention

The present invention relates to an outdoor umbrella, and more particularly to an outdoor umbrella with lighting arrangement integrally installed therein, wherein the lighting arrangement can illuminate an area under the outdoor umbrella.

2. Description of Related Arts

Outdoor umbrellas are usually provided in a campground or on a beach to give a pleasant shade for a user. In the dark, a user may merely mount a light on the outdoor umbrella for illumination. Conventionally, there are two installation methods in order to mount the light on the outdoor umbrella. First, the light is hanged on a supporting shaft of the outdoor umbrella. Second, the light is adhered on the supporting shaft of the outdoor umbrella. However, the two installation methods as mentioned above do not work when the outdoor umbrella is folded. Thus, when the light is installed into the outdoor umbrella, the outdoor umbrella is difficult to be folded up since the light may alter the origin structural design of the outdoor umbrella. Especially when the light is adhered on the outdoor umbrella, it is difficult for the user to maintain and repair the light since the light cannot be detached from the outdoor umbrella. Also, the external light will destroy the beauty appearance of the outdoor umbrella as well.

Moreover, such campground or beach may not provide any power source for providing electricity to the light. Even though there is a power source in such place, it is inconvenient for the user to extend an electrical cord from the light to the power source. The user may trip over the extending electrical cord which may cause accidents.

SUMMARY OF THE PRESENT INVENTION

A main object of the present invention is to provide an outdoor umbrella with lighting arrangement which is internally installed into the outdoor umbrella for well illuminating an area under the outdoor umbrella.

Another object of the present invention is to provide an outdoor umbrella with lighting arrangement which is easy to install to an existing outdoor umbrella and in low cost.

Another object of the present invention is to provide an outdoor umbrella with lighting arrangement wherein electrical cords and a switchable power supply are provided inside the outdoor umbrella such that a user is safe and hassle-free to operate the lighting arrangement.

Another object of the present invention is to provide an outdoor umbrella with lighting arrangement which can be equipped with an existing outdoor umbrella without any alteration of the outdoor umbrella.

Accordingly, in order to accomplish the above objects, the present invention provides an outdoor umbrella comprises an awning frame for supporting a fabric thereon and a lighting arrangement; wherein

the awning frame comprises an upper casing, a lower casing, and a folding frame foldably connected between the upper casing and the lower casing wherein the folding frame comprises a plurality of hollow awning tubes radially extended from the upper casing and a plurality of hollow supporting bars each radially extended from the lower casing and rotatably con-

nected to the respective awning tube, and a supporting frame for supporting the awning frame comprising a stand and a supporting shaft upwardly extended from the stand; and

the lighting arrangement comprises a mounting slot longitudinally formed on each of the awning tubes, a plurality of illuminating units each comprising an electrical extension securely mounted along the mounting slot of the awning tube and at least an illuminating connector electrically connected to the electrical extension for mounting a replaceable illuminator wherein the illuminating units are electrically connected together at the upper casing and electrically extended to a switchable power supply provided in the supporting frame.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a sectional view of an outdoor umbrella with lighting arrangement according to a first preferred embodiment of the present invention.

FIG. 2 is a sectional view of an awning tube of the outdoor umbrella with lighting arrangement according to the above first preferred embodiment of the present invention, illustrating a mounting slot formed on the awning tube.

FIG. 3 illustrates an illuminating unit of the lighting arrangement for outdoor umbrella according to the above first preferred embodiment of the present invention.

FIG. 4 illustrates an illuminating unit mounted on the awning tube of the outdoor umbrella according to the above first preferred embodiment of the present invention.

FIG. 5 is a sectional view of an outdoor umbrella with lighting arrangement according to a second preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1 of the drawings, an outdoor umbrella according to a preferred embodiment of the present invention is illustrated, wherein the outdoor umbrella comprises an awning frame for supporting a fabric thereon and a lighting arrangement. The outdoor umbrella, such as a standard outdoor umbrella, comprises an upper casing 1 a lower casing 6, and a folding frame foldably connected between the upper casing 1 and lower casing 6 wherein the folding frame comprises a plurality of hollow awning tubes 3 radially extended from the upper casing 1 and a plurality of hollow supporting bars 4 each radially extended from the lower casing 6 and rotatably connected to the respective awning tube 3, and a supporting frame for supporting the awning frame comprising a stand 10 and a supporting shaft 7 upwardly and vertically extended from the stand 10.

The lighting arrangement comprises a mounting slot 32 longitudinally formed on each awning tube 3, a plurality of illuminating units each comprising an electrical extension 33 securely mounted along the mounting slot 32 of the awning tube 3 and an illuminating connector 31 spacedly provided along the electrical extension 33 for mounting a replaceable illuminator 5 wherein the illuminating units are electrically connected together at the upper casing 1 and electrically extended to a switchable power supply 11 provided in the supporting frame.

Each mounting slot 32 is an elongated slot longitudinally formed along each awning tube 3, as shown in FIG. 2.

Referring, to FIG. 3, the electrical extension 33 is an elongated belt adapted for securely mounting on the mounting slot 32 of the awning tube 3 wherein the illuminating



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