An tent structure includes a tent, at least one solar energy panel placed on the tent structure for absorbing sunlight or other light and generating a first electric energy, and a electric energy converter connected to the at least one solar panel for converting the first electric energy to a second electric energy, and a storage device connected to the electric energy converter for storing the second electric energy.
TENT STRUCTURE WITH SOLAR ENERGY PANELS

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation-in-part of U.S. application Ser. No. 10/988575, filed on 16 Nov. 2004 and entitled “tent structure with solar energy panels”, now pending.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the invention

[0003] The present invention relates to a tent structure with solar energy panels, and more particularly to a tent structure with solar energy panels for collecting solar energy.

[0004] 2. Description of the Prior Art

[0005] As people’s leisure time increases, many people choose to spend more of their time in the outdoors. However, when people go for an outing, they also wish to use many of the appliances that they can use in their own homes. Unfortunately, due to the lack of electrical power, this is often impossible. Options, such as a diesel-electric generator, are available. However, because of the noise and air pollution they create, they are not conducive to an enjoyable and relaxing trip into the outdoors.

[0006] The inventor of the present invention recognizes that the above problem should be corrected and special effort has been paid to discover a solution. The present invention is presented with reasonable design and good effect to resolve the above problems.

SUMMARY OF THE INVENTION

[0007] The objective of the present invention is to provide a tent structure with solar panels to absorb solar energy and transform it into a first electric energy. Moreover, an electric energy converter converts the first electric energy into a second electric energy for providing a power supply.

[0008] For achieving the above objective, a solar energy collector comprising a tent with solar panels to absorb solar energy or other light and generate a first electric energy. An electric energy converter assembly composes of an IC, some resistors, some capacitors and some LEDs, and connects to the at least one solar panel for converting the first electric energy to a second electric energy, wherein the type of the IC is SC806. The present invention further comprises a storage device connected to the electric energy converter for storing the second electric energy, wherein the storage device is a rechargeable battery.

[0009] The present invention combines a tent with solar panels and utilizes the photo-to-electron power conversion technique. When people go for an outing, the device will enhance their enjoyment by allowing them to listen to music, have electrical lights at night and so on, due to the power supply provided by the storage device. Furthermore, the photo-to-electron power conversion technique is non-polluting, comes from an inexhaustible source of power, and free.

[0010] It is to be understood that both the foregoing general description and the following detailed description are exemplary, and are intended to provide further explanation of the invention as claimed. Other advantages and features of the invention will be apparent from the following description, drawings and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a perspective schematic view of the first embodiment of the present invention.

[0012] FIG. 2 is a perspective schematic view of the second embodiment of the present invention.

[0013] FIG. 3 is a circuit diagram of the electric energy converter of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0014] Reference is made to FIG. 1, which is a perspective schematic view of the first embodiment of the present invention. The tent 1 has at least one solar energy panel 2 with at least one solar panel facing towards the sun or other light source for absorbing solar energy or other light energy and generating a first electric energy S1.

[0015] The solar energy panel 2 collects the solar energy or other light energy, and transforms the energy into the first electric energy S1. An electric energy converter 3 connects to the solar energy panel 2 for converting the first electric energy S1 to a second electric energy S2. Moreover, the electric energy converter 3 could supplies as DC power through regulating and boosting.

[0016] The second electric energy S2 transformed by the electric energy converter 3 provides an inverter to output AC power. Moreover, the second electric energy S2 transformed via the electric energy converter 3 can be stored in a storage device 4 connected to the electric energy converter 3. The storage device 4 is a rechargeable battery.

[0017] Reference is made to FIG. 2, which is a perspective schematic view of the second embodiment of the present invention. The tent 1 has at least one solar energy panel 2 for absorbing sunlight or other light. Naturally, as the day progresses and the sun moves throughout the sky, different parts of the tent will be in the optimum position for absorbing sunlight or other light. To absorb the light, the at least one solar energy panel 2 faces toward the sun or other light to absorb solar energy or other light energy and generate the first electric energy S1.

[0018] The solar energy panel 2 collects the solar energy or other light energy, and transforms the energy into the first electric energy S1. An electric energy converter 3 connects to the solar energy panel 2 for converting the first electric energy S1 to a second electric energy S2. Moreover, the electric energy converter 3 could supplies as DC power through regulating and boosting.

[0019] The second electric energy S2 transformed by the electric energy converter 3 provides an inverter to output AC power. Moreover, the second electric energy S2 transformed via the electric energy converter 3 can be stored in a storage device 4 connected to the electric energy converter 3. The storage device 4 is a rechargeable battery.
[0020] Reference is made to FIG. 3, which is a circuit diagram of the electric energy converter of the present invention. The electric energy converter 3 assembly comprises of an IC U5, some resistors, some capacitors and some LEDs, wherein the type of the IC U5 is SC806. The IC U5 of type SC806 includes the IN pin, the VCC pin, the STAT1 pin, the STAT2 pin, the VSS pin, the OUT pin, the BAT pin, the TS pin, the PG pin and the ISET pin.

[0021] The IN pin of the IC U5 connects to the storage device 4 via a capacitor C24, the VCC pin connects to a LED D3 via a resistor R21, the STAT1 pin connects to the solar energy panel 2 via a resistor R31 and a capacitor C25. Moreover, the STAT2 pin and the VSS pin connect to a resistor R30 and a resistor R29 respectively, the OUT pin connects to a LED D2 via a resistor R18, the BAT pin connects to a resistor R28. Furthermore, the TS pin is floating and the PG pin and the ISET pin connect to a ground terminal.

[0022] In response to the topology of the circuit above, the electric energy converter 3 transforms the first electric energy S1 supplied from the solar energy panels 2 to the second electric energy S2 for charging to the storage device 4. The second electric energy S2 can then be stored in the storage device 4 connected to the electric energy converter 3.

[0023] To sum up, the present invention provides a solar energy panel placed on a part of a tent for absorbing sunlight or other light and generating the first electric energy S1. Moreover, the electric energy converter 3 is connected to the solar panels for transforming the first electric energy S1 supplied from the solar energy panels to the second electric energy S2. The second electric energy S2 can then be stored in the storage device 4 connected to the electric energy converter 3.

[0024] The present invention combines solar panels with a tent and utilizes the photo-to-electron power conversion technique. When users go for an outing, they can now enhance their pleasure and relaxation time thanks to the electric storage device. Furthermore, the photo-to-electron power conversion technique is non-polluting, comes from an inexhaustible source of power, and free.

[0025] Although the present invention has been described with reference to the preferred embodiments thereof, it will be understood that the invention is not limited to the details thereof. Various substitutions and modifications are intended to be embraced within the scope of the invention as defined in the appended claims.

What is claimed is:

1. A tent structure, comprising:
   a tent;
   at least one solar panel placed over the tent for absorbing sunlight or other light and generating a first electric energy;
   a electric energy converter assembly composed of an IC, some resistors, some capacitors and some LEDs, and connected to the at least one solar panel for converting the first electric energy to a second electric energy, wherein the type of the IC is SC806; and
   a storage device connected to the electric energy converter for storing the second electric energy, wherein the storage device is a rechargeable battery.

2. A tent structure as in claim 1, wherein the at least one solar panel is placed on at least one side surface of the tent to absorb light.

3. A tent structure as in claim 1, wherein the at least one solar panel is placed on a front side of the tent.

4. A tent structure as in claim 1, wherein the at least one solar panel is placed on a back side of the tent.

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