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(57) Abstract :

SOLAR POWERED AIR CONDITIONING AND WATER HEATING APPARATUS AND A METHOD THEREOF Solar powered air conditioning and water heating apparatus and a method to operate the same. The apparatus includes a plurality of pairs of Peltier elements, each element of the plurality of pairs of the Peltier elements are connected in series and each pair of the plurality of pairs of the Peltier elements is connected in parallel. The plurality of pairs of Peltier elements is configured to convert thermal energy into electrical energy. The apparatus also includes one or more solar panels configured to convert solar energy into electrical energy, an air cooling subsystem configured to cool the air, the air is generated by the plurality of pairs of Peltier elements within a pre-defined area, a water heating subsystem configured to heat the water within a specific container based on Peltier effect of heating, a control unit configured to control flow of the electrical energy by pulse width modulation (PWM) technique. FIG. 1

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Patent Search

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Abstract:

SOLAR POWERED AIR CONDITIONING AND WATER HEATING APPARATUS AND A METHOD THEREOF Solar powered air conditioning and water heating apparatus and a met operate the same. The apparatus includes a plurality of pairs of Peltier elements, each element of the plurality of pairs of the Peltier elements are connected in series and pair of the plurality of pairs of the Peltier elements is connected in parallel. The plurality of pairs of Peltier elements is configured to convert thermal energy into electrical The apparatus also includes one or more solar panels configured to convert solar energy into electrical energy, an air cooling subsystem configured to cool the air, the air generated by the plurality of pairs of Peltier elements within a pre-defined area, a water heating subsystem configured to heat the water within a specific container based Peltier effect of heating, a control unit configured to control flow of the electrical energy by pulse width modulation (PWM) technique. FIG. 1

Complete Specification

Claims:WE CLAIM:

- Solar powered air conditioning and water heating apparatus (10) comprising:
 - a plurality of pairs of Peltier elements (20), wherein each element of the plurality of pairs of the Peltier elements (20) are connected in series and each pair of the plurality of pairs of the Peltier elements (20) is connected in parallel, wherein the plurality of pairs of Peltier elements (20) is configured to convert thermal energy into electrical energy;
 - one or more solar panels (30) operatively coupled to the plurality of pairs of Peltier elements (20), and configured to convert solar energy into electrical energy;
 - an air cooling subsystem (40) operatively coupled to the plurality of pairs of Peltier elements (20), and configured to cool the air, wherein the air is generated by the plurality of pairs of Peltier elements (20) within a pre-defined area;
 - a water heating subsystem (50) operatively coupled to the air cooling subsystem (40), and configured to heat the water within a specific container based on Peltier effect of heating; and
 - a control unit (60) operatively coupled to the one or more solar panels (30), and configured to control flow of the electrical energy through a pulse width modulation (PWM) technique.
- The apparatus (10) as claimed in claim 1, wherein the air cooling subsystem (40) comprises:
 - at least one inlet valve configured to enable the air to flow into the air cooling subsystem (40);
 - one or more fans operatively coupled to the at least one inlet valve, and configured to circulate the air within the air cooling subsystem (40); and

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