Patent Search

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Abstract:

The present invention describes a solar air dryer assembly and working method thereof. There are two components one is primary dryer and other is secondary dryer. The primary dryer is connected with the solar dish. This dish is having sun tracking system. The primary dryer will receive the radiations reflected by the solar dish. To keep the fabri dry, this dryer has mesh type trays inside. So that air can circulate through it. This dryer is having a temperature sensor. A fan with air circulation can be used to regulate the temperature of this container. The secondary dryer will be kept in the shed. It will not receive sun light directly. The hot air from the primary dryer will be used to hot the chamber. This chamber is also having a temperature sensor. The temperature of the chamber will be controlled through the air circulation.

Complete Specification

DESC:FIELD OF INVENTION:
The present invention in general relates to the field of the solar air dryer assembly. In particular, the present invention relates to a solar air dryer assembly and working method thereof.
BACKGROUND OF THE INVENTION
Agriculture, with its allied sectors, is the largest source of livelihoods in India. It contributes 22 percent to the country's gross domestic product (GDP). 70 percent of its rural households still depend primarily on agriculture for their livelihood, with 82 percent of farmers being small and marginal. Farmers or scientist have to dry fruits, vegetables or herbs to store them for long time. As most of the farmers belongs to rural area where maintenance & repair of electric dryer is not possible. To support such kind of farmers, solar air dryer has been designed. There are few references made to the present invention as given below:
WO2014097307A1 discloses a solar dryer for drying organic or inorganic material with controlled radiation. The dryer comprises a radiation absorbing heat conducting surface, and a convection channel formed by a radiation controlling cover over the conducting surface. The present invention uses the heat transfer modes of conduction, convection and radiation in the solar dryer.
US9250015B2 relates to a system for drying or heating product using solar energy including an enclosure defining a kiln chamber in which a charge of the product is placed, the enclosure having at each side of the chamber at least one passage through which air from the kiln chamber can pass to be heated by solar energy impinging on the enclosure, and an air flow system having at least one fan for generating a circulating air flow within the kiln chamber whereby air passes from one side of the charge to the other, and an air supply for drawing air into each passage from the bottom part of the kiln chamber at opposite sides of the charge to move through the passage into an

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