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Patent Search

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Inventor

Name	Address	Country	Nationality
THIYAGARAJAN,PREM KUMAR	NO:4/204-5 SUNDARAM NAGAR, MUTHIAHPURAM TUTICORIN TAMILNADU INDIA-628005	India	India
SHANMUGAM,SARAVANARAJ	NO:14-2/5 NEW STREET, ELAMPILLAI SALEM TAMILNADU INDIA-637502	India	India
SUBRAMANIAN,KISHORE KUMAR	NO: 9/152 A NAMBAGOUNDAN PALAYAM TIRUPUR TAMIL NADU INDIA-638105	India	India
SIVAJOTHI, ARAVINTH	NO:4/313 MOOVENDAR NAGAR HOSUR TAMILNADU INDIA-635109	India	India
KRISHNARAJU, SIDDART	NO:14 VIJAY GARDEN, VKN NAGAR,TVS NAGAR, VELANDIPALAYAM PO COIMBATORE TAMILNADU INDIA-641025	India	India

Applicant

Name	Address	Country	Nationality
PSG INSTITUTE OF TECHNOLOGY AND APPLIED RESEARCH	SALEM-COIMBATORE HIGHWAY, AVINASHI ROAD, NEELAMBUR, COIMBATORE, TAMILNADU, INDIA-641062.	India	India

Abstract:

The present invention relates to the field of solar energy based hot water, hot air collection and fruit drying system using parabolic trough collector. The solar parabolic trough collector (1) comprises of a main trough collector body (11), a chamber door (12), parabolic trough (13) and at least a solar radiation receiving copper tube (14), wherein an air heating arrangement (31) with plurality of fans (34, 35 and 36) is mounted in the parabolic trough collector (1).

Complete Specification

TECHNICAL FIELD OF THE INVENTION

The present invention generally relates to the field of solar heating system. More particularly, the present invention relates to the field of solar energy based hot water, hot air collection and fruit drying system using parabolic trough solar collector.

BACKGROUND OF THE DISCLOSURE

Solar energy is a kind of clean energy. It is inexhaustible and it will not cause environmental pollution. Nowadays, solar energy products are entering more and more people's sights both in coastal cities and in inland cities. All kinds of solar water heaters have also approached thousands of households.

Solar based fruit drying system is one of the methods widely used to dry the fruits. The moisture content of fresh fruits is generally 70% to 90%, and the loss caused by unsatisfactory or unsuitable processing each year is very large. Drying can remove most of the water in the raw materials, and is an important means for the storage of fruits. The current drying of fruits is generally air-dried. In order to speed up the drying process, heating, electricity, coal, gas, firewood, and other energy sources are sometimes used for heating and drying.

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The traditional method of fruit drying is done in open atmosphere using solar heat energy. Here the traditional method of drying can cause the fruits by dust,

pollution and other environmental radiations at day time. The fruit drying in the open atmosphere takes more time and need protection. The present invention is disclosed to overcome those difficulties when drying the fruits using solar drying system. Here there is no other system to generate hot air, hot water and fruit drier in a single

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