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Patent Search

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Abstract:

ABSTRACT Solar drying is an essential method for preserving agricultural produce and various materials, yet traditional methods often suffer from inefficiencies and r requirements. To address these challenges, we introduce the Al-based angle-changing parabolic solar dryer—a groundbreaking innovation that combines advanced t to revolutionize the drying process. This dryer employs dynamic angle adjustment facilitated by hydraulic jacks controlled by anificial intelligence (Al) to ensure optim with the sun's trajectory throughout the clay. Real-time climate control, driven by internal and external sensors, maintains consistent drying conditions regardless of e weather fluctuations. Sustainable energy practices are integrated via a photovoltaic solar panel system with energy storage, reducing dependency on extemal.power Furthennore, the AI controller utilizes machine learning algorithms to continuously optimize operations, enhancing efficiency and adaptability over time. This innovat represents a significant advancement in solar drying technology, offering a highly efficient, sustainable, and user-friendly solution for diverse drying applications.

Complete Specification

Field of Invention
This invention pertains to the field of sola} drying technology, specifically to an artificial intelligence-baéed solar dryer capable of adjusting its angle in accordance with the sun's position. The system incorporates automatic sun tracking, climate control mechanisms, and a photovoltaic power supply for optimized drying efficiency and energy usage.
Background of the Invention
Solar drying has been a time-honored method for preserving agricultural produce, herbs, and various other materials. Tfiditional solar dryers typically consist of static structures where items are laid out to dry under natural sunlight. These systems, while effeétive to. an extent, are heavily dependent on favorable weather conditions and Esquire manual adjustments to optimize the drying process, making them labor-intensive and often inefficient. Key challenges include
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inconsistent drying due to the inability to follow the sun’s path, the need for regular manual repositioning, and a lack of temperature and humidity control, which can lead to suboptimal

View Application Status

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