पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 14/2021	शुक्रवार	दिनांक: 02/04/2021
ISSUE NO. 14/2021	FRIDAY	DATE: 02/04/2021

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :22/03/2021
(21) Application No.202141012160 A
(43) Publication Date : 02/04/2021

(54) Title of the invention : DESIGN AND OPTIMIZATION OF HIGH SPEED INFRARED HEATING FURNACE

(51) International classification	:G01K0007020000, B29C0045780000, G05D0023220000, D02G0003360000, A01G0009140000
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No	:NA
Filing Date	:NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number	:NA
Filing Date	:NA
(62) Divisional to Application Number	:NA
Filing Date	:NA

(71)**Name of Applicant :**
1)Mrs. A. ARUNA JYOTHI
Address of Applicant :DEPARTMENT OF MECHANICAL ENGINEERING, MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS), MAISAMMAGUDA, DHULAPALLY, MEDCHAL, HYDERABAD, TELANGANA - 500014, INDIA. Telangana India
2)Dr. K. MALLIKARJUNA
3)Dr. HARIPRASAD TARIGONDA
4)Dr. R.T. SARATHBABU
(72)**Name of Inventor :**
1) Mrs. A. ARUNA JYOTHI
2)Dr. K. MALLIKARJUNA
3)Dr. HARIPRASAD TARIGONDA
4)Dr. R.T. SARATHBABU

(57) Abstract :
This invention is intended to improve Electrical versus Thermal proficiency. In this examination infrared infiltration warming framework has been utilized to improve proficiency up to 90% warm effectiveness and 100% electrical productivity. This development identifies with build a furnace model to improve our framework by lessening the weight factor of the heater by changing the shaping methodology of the heater packaging by utilizing of composite protection material. A genuine manufacture model is to investigate IR warming framework. 1R lights will be utilized to give heat. From the furnace, the temperature is detected by the thermocouple, which depends on the rule of See beck impact. Temperature gained from the thermocouple is shown on the screen of the PC. The PC will likewise contrast the temperature procured and the set temperature and control activity if any will be finished by the strong state hand-off that maintains a strategic distance from quick warming. The infrared (IR) wanning can possibly be utilized for solutionizing of metal forgings with advantages of diminished energy utilization, expanded efficiency, and improved microstructure and mechanical properties.

No. of Pages : 26 No. of Claims : 10

Patent Search

Invention Title	DESIGN AND OPTIMIZATION OF HIGH SPEED INFRARED HEATING FURNACE
Publication Number	14/2021
Publication Date	02/04/2021
Publication Type	INA
Application Number	202141012160
Application Filing Date	22/03/2021
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	PHYSICS
Classification (IPC)	G01K0007020000, B29C0045780000, G05D0023220000, D02G0003360000, A01G0009140000

Inventor

Name	Address	Country
Mrs. A. ARUNA JYOTHI	DEPARTMENT OF MECHANICAL ENGINEERING, MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS), MAISAMMAGUDA, DHULAPALLY, MEDCHAL, HYDERABAD, TELANGANA - 500014, INDIA.	India
Dr. K. MALLIKARJUNA	DEPARTMENT OF MECHANICAL ENGINEERING, G. PULLAIAH COLLEGE OF ENGINEERING AND TECHNOLOGY(AUTONOMOUS), NANDIKOTKUR ROAD, PASUPALA VILLAGE, KURNOOL, ANDHRA PRADESH, INDIA, 518002	India
Dr. HARIPRASAD TARIGONDA	DEPARTMENT OF MECHANICAL ENGINEERING, SREEVIDYANIKETHAN ENGINEERING COLLEGE(AUTONOMOUS) SREE SAINATH NAGAR, TIRUPATI, A. RANGAMPET, ANDHRA PRADESH, INDIA, 517102	India
Dr. R.T. SARATHBABU	DEPARTMENT OF MECHANICAL ENGINEERING, MOTHER THERESA INSTITUTE OF ENGINEERING & TECHNOLOGY(MTIE), MELUMOI POST, PALAMANER, CHITTOOR(D.T), ANDHRA PRADESH, INDIA, 517408	India

Applicant

Name	Address	Country
Mrs. A. ARUNA JYOTHI	DEPARTMENT OF MECHANICAL ENGINEERING, MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS), MAISAMMAGUDA, DHULAPALLY, MEDCHAL, HYDERABAD, TELANGANA - 500014, INDIA.	India
Dr. K. MALLIKARJUNA	DEPARTMENT OF MECHANICAL ENGINEERING, G. PULLAIAH COLLEGE OF ENGINEERING AND TECHNOLOGY(AUTONOMOUS), NANDIKOTKUR ROAD, PASUPALA VILLAGE, KURNOOL, ANDHRA PRADESH, INDIA, 518002	India
Dr. HARIPRASAD TARIGONDA	DEPARTMENT OF MECHANICAL ENGINEERING, SREEVIDYANIKETHAN ENGINEERING COLLEGE(AUTONOMOUS) SREE SAINATH NAGAR, TIRUPATI, A. RANGAMPET, ANDHRA PRADESH, INDIA, 517102	India
Dr. R.T. SARATHBABU	DEPARTMENT OF MECHANICAL ENGINEERING, MOTHER THERESA INSTITUTE OF ENGINEERING & TECHNOLOGY(MTIE), MELUMOI POST, PALAMANER, CHITTOOR(D.T), ANDHRA PRADESH, INDIA, 517408	India

Abstract:

This invention is intended to improve Electrical versus Thermal proficiency. In this examination infrared infiltration warming framework has been utilized to improve up to 90% warm effectiveness and 100% electrical productivity. This development identifies with build a furnace model to improve our framework by lessening the w of the heater by changing the shaping methodology of the heater packaging by utilizing of composite protection material. A genuine manufacture model is to investi warming framework. 1R lights will be utilized to give heat. From the furnace, the temperature is detected by the thermocouple, which depends on the rule of See bec Temperature gained from the thermocouple is shown on the screen of the PC. The PC will likewise contrast the temperature procured and the set temperature and c if any will be finished by the strong state hand-off that maintains a strategic distance from quick warming. The infrared (IR) wanning can possibly be utilized for soluti metal forgings with advantages of diminished energy utilization, expanded efficiency, and improved microstructure and mechanical properties.

Complete Specification

of thick earthenware fiber board, and afterward covered with high reflectance ceramic creation, and heated or terminated to frame the completed component. This application is a CLP Application of U.S. Normal application Ser. No. 11/768,067 documented Jun. 25, 2007, presently U.S. Pat. No. 7,805,064,-gave Sep. 28, 2010, enti Rapid Thermal Firing IR Conveyor Furnace Having High Intensity Heating Section, which thusly is the US Regular Application of U.S. Temporary Application Ser. No. 60/805,856, entitled IR Conveyor Furnace Having High Intensity Heating Section for Thermal Processing of Advanced Materials Including Si-Based Solar Cell Wafers, 26, 2006, the exposures of which are thusly joined by reference and the need of which are therefore asserted under 35 US Code Section 119.

CN102538453A: The innovation gives a high-reflectivity component IR light module and a technique for simmering a different area IR heater for handling sunlight b cells. The high-reflectivity plate is arranged to segregate neighboring lights in a handling territory by methods for folding or notches. Cooled air in the heater is rele

courses upstream for energy preservation. Lights are inconsistent with stretches and the force of every light freely controls to give limitless control of temperature each warming zone. The high-reflectivity component can be made out of thickness fired fireboards, and afterward is covered with high-reflectivity artistic segments structures the last component through cooking.

US5732691A: An adjusting, constrained draft, fuel-terminated air warming heater is given a two-speed draft inducer fan, and a fuel valve which is completely modu between a greatest terminating rate and a low terminating pace of roughly 40% thereof. Joined into the heater control framework are typically shut low and high fir pressure-electric switches which sense and are successively shut by progressively negative pressing factor in the draft inducer fan. Upon a call for heal from an indc regulator situated in the adapted space served by the heater, the draft inducer fan is invigorated at its fast setting, and a sign is shipped off the fuel valve to set it at

View Application Status