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Patent Search

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Inventor

Name	Address	Country
P.MUTHUSAMY	ASSISTANT PROFESSOR DEPARTMENT OF MECHANICAL ENGINEERING, POLLACHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, 107/1B POOSARIPATTI POLLACHI TALUK COIMBATORE, TAMILNADU 642205	India
Dr. Abhishek Agarwal	Assistant Professor, Department of Mechanical and Manufacturing Engineering Technology, Vermont State University, Randolph, USA	India
Dr. Yogesh Chandra	Dean- Operations, Mechanical Engineering Department, ABESIT Group of Institutions, Campus 2, 19th km Stone, Delhi-Hapur Bypass Road, NH-24, Vijay Nagar Ghaziabad-201009, Uttar Pradesh	India
Rafael Cavicchioli Batista	Assistant Professor, Mechanical and Manufacturing Engineering Program, Vermont state University, Randolph – VT, USA	Brazil
Dr. Harshit Prakashbhai Bhavsar	Assistant Professor, Department of Mechanical Engineering, SAL college of Engineering, opp science city, Sola -Bhadaj Road, Ahmedabad, Gujarat- 380060	India
Prof. More Sunil Anil	Assistant Professor, Department of Mechanical Engineering, Rajarshi Shahu College of Engineering, Pune, Maharashtra – 411033	India
Dr Santosh Singh	Assistant Professor, Department of Physics, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana 500043	India
Mahmoud Ebrahimi	Department of Mechanical Engineering, Faculty of Engineering, University of Maragheh, P.O. Box 55136-553, Maragheh, Iran	India
K.PARAMESHWARAN	ASSISTANT PROFESSOR MECHANICAL ENGINEERING, DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE (AUTONOMOUS), THURIYUR ROAD, PERAMBALUR, 621212, Tamil Nadu	India
Sumanth Ratna Kandavalli	50 Farmers Avenue, Bethpage New York 11714, United States of America.	India
MR. L. KARTHICK	Assistant Professor Department of Mechanical Engineering, Hindusthan College of Engineering and Technology, Valley Campus, Pollachi Highway. Coimabtoe - 641 032. Tamilnadu	India

Applicant

Applicant	
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Name	Address	Country
P.MUTHUSAMY	ASSISTANT PROFESSOR DEPARTMENT OF MECHANICAL ENGINEERING, POLLACHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, 107/1B POOSARIPATTI POLLACHI TALUK COIMBATORE, TAMILNADU 642205	India
Dr. Abhishek Agarwal	Assistant Professor, Department of Mechanical and Manufacturing Engineering Technology, Vermont State University, Randolph, USA	U.S.A.
Dr. Yogesh Chandra	Dean- Operations, Mechanical Engineering Department, ABESIT Group of Institutions, Campus 2, 19th km Stone, Delhi-Hapur Bypass Road, NH-24, Vijay Nagar Ghaziabad-201009, Uttar Pradesh	India
Rafael Cavicchioli Batista	Assistant Professor, Mechanical and Manufacturing Engineering Program, Vermont state University, Randolph – VT, USA	U.S.A.
Dr. Harshit Prakashbhai Bhavsar	Assistant Professor, Department of Mechanical Engineering, SAL college of Engineering, opp science city, Sola -Bhadaj Road, Ahmedabad, Gujarat- 380060	India
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Dr Santosh Singh	Assistant Professor, Department of Physics, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana 500043	India
Mahmoud Ebrahimi	Department of Mechanical Engineering, Faculty of Engineering, University of Maragheh, P.O. Box 55136-553, Maragheh, Iran	Iran
K.PARAMESHWARAN	ASSISTANT PROFESSOR MECHANICAL ENGINEERING, DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE (AUTONOMOUS), THURIYUR ROAD, PERAMBALUR, 621212, Tamil Nadu	India
Sumanth Ratna Kandavalli	50 Farmers Avenue, Bethpage New York 11714, United States of America.	U.S.A.
MR. L. KARTHICK	Assistant Professor Department of Mechanical Engineering, Hindusthan College of Engineering and Technology, Valley Campus, Pollachi Highway. Coimbatore - 641 032. Tamilnadu	India

Abstract:

METHOD AND APPARATUS FOR CLEANING A FURNACE BURNER A burner sub-system, a furnace containing it, a process for burning fuel and a process for cracking steam furnace. The combustion procedures connected to glass melting are the subject of the invention. When the furnace is in use, two chambers that are separated from each other's working spaces are fed with fuel of two different origins. One of those chambers is the only one receiving combustion air. An industrial glass furnace that is one of the following components for heating batch materials of glass: an electrothermal heat exchanger, a regenerator, an electrical boost, or another heating device. By spacing the gas discharge tip and oxygen discharge orifice apart, a delayed combustion is achieved. The burner generates enough heat to enable the production of steam from batch materials without the need for regenerators or recuperators. Due to less heat reflection to the burner tip than an annular barrier wall, the partial barrier wall has the advantage of preventing the temperature inside the FGR duct from rising too high and achieving low NOx emissions from the combustion process without overheating the tip.

Complete Specification

Description:METHOD AND APPARATUS FOR CLEANING A FURNACE BURNER

BACKGROUND

Technical Field

[0001] The embodiments herein generally relate to a method and apparatus for cleaning a furnace burner.

Description of the Related Art

[0002] The fact that the side faces of the feet are symmetrically heated on one side by the side furnace and on the other by the upper burner is a distinguishing characteristic of the described furnace for heating sheets in the feet. The burner consists of a primary air chamber, a burner tube with an upstream end, a downstream end, and a venturi in between the upstream and downstream ends. This method enables to obtain a high degree of thermal efficiency coupled with high melting rate by transferring the necessary heat for preheating the combustion air through the exhaust gases, which, in general, arise during the usage of circulating regenerators. The use of at least one oxygen-fuel burner using inner or outer combustion staging on the ceiling of a glass melting furnace is also covered by the current invention. The present invention's improved structure results in a higher capacity that offers a higher temperature flame or envelope of intense heat that can be precisely positioned within the furnace structure to produce desired thermal conditions. This flame or envelope is longer and smaller in diameter. In certain circumstances, particularly for lower temperature furnaces like those used for secondary aluminum melting, higher flame temperatures can have detrimental effects. There have been attempts to create furnaces of this sort that can produce different amounts of heat based on the amount of heating needed as determined by temperature sensors in the duct.

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