

Title (en)  
COMBUSTION HEATER

Title (de)  
VERBRENNUNGSSHEIZGERÄT

Title (fr)  
RÉCHAUFFEUR À COMBUSTION

Publication  
**EP 2244012 A1 20101027 (EN)**

Application  
**EP 09705985 A 20090130**

Priority  
• JP 2009051642 W 20090130  
• JP 2008022976 A 20080201

Abstract (en)  
The combustion heater (1) includes an inner tube (20) having a supply passage (21) for combustion gas (G) in an inner portion, and an outer tube (10) disposed to provide a separated combustion space (30) in an outer periphery of the inner tube. A hole part (24) for ejecting the combustion gas being formed on a tube wall of the inner tube and a radiation promoting surface (20B) is disposed on an outer periphery of the inner tube. This structure suppresses excess temperature increase in the inner tube and improves heating efficiency in the combustion heater.

IPC 8 full level  
**F23C 3/00** (2006.01); **F23D 14/12** (2006.01)

CPC (source: EP KR US)  
**F23C 3/002** (2013.01 - EP KR US); **F23D 14/12** (2013.01 - EP US); **F23D 14/125** (2013.01 - EP KR US); **F24C 3/06** (2013.01 - US); **F24H 3/006** (2013.01 - US); **F23D 2203/005** (2013.01 - EP KR US); **F23D 2212/10** (2013.01 - EP KR US)

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**EP 2244012 A1 20101027**; **EP 2244012 A4 20121024**; BR PI0906717 A2 20150630; CA 2713306 A1 20090806; CA 2713306 C 20130129; CN 101932876 A 20101229; CN 101932876 B 20120815; JP 2009186023 A 20090820; KR 101215090 B1 20121224; KR 20100102694 A 20100924; RU 2010133446 A 20120320; RU 2454603 C2 20120627; TW 200940907 A 20091001; TW I374997 B 20121021; US 2011041837 A1 20110224; US 2016003482 A1 20160107; WO 2009096554 A1 20090806

DOCDB simple family (application)  
**EP 09705985 A 20090130**; BR PI0906717 A 20090130; CA 2713306 A 20090130; CN 200980103444 A 20090130; JP 2008022976 A 20080201; JP 2009051642 W 20090130; KR 20107017219 A 20090130; RU 2010133446 A 20090130; TW 98103179 A 20090202; US 201514851393 A 20150911; US 81286809 A 20090130