

Title (en)  
HEATING DEVICE AND HEATING METHOD

Title (de)  
HEIZVORRICHTUNG UND HEIZVERFAHREN

Title (fr)  
DISPOSITIF DE CHAUFFAGE ET PROCÉDÉ DE CHAUFFAGE

Publication  
**EP 3604925 A4 20200401 (EN)**

Application  
**EP 18778121 A 20180319**

Priority  
• JP 2017061583 A 20170327  
• JP 2018010774 W 20180319

Abstract (en)  
[origin: EP3604925A1] Provided is a heating device which can stably hold flame without flame off even when a discharge speed is high, and thus can perform heating with extremely high efficiency. The heating device comprises a burner, wherein the burner comprises: a main burner part having a fuel gas nozzle configured to discharge fuel gas and an air nozzle configured to discharge air for combustion; and a sub burner part positioned further outward than the main burner part and configured to combust the fuel gas discharged from the main burner part.

IPC 8 full level  
**F23Q 9/00** (2006.01); **F23D 14/22** (2006.01); **F23D 14/74** (2006.01); **F23Q 9/02** (2006.01); **F23Q 9/04** (2006.01); **F23Q 9/08** (2006.01)

CPC (source: EP KR)  
**F23D 14/22** (2013.01 - EP KR); **F23D 14/74** (2013.01 - EP KR); **F23Q 9/00** (2013.01 - EP); **F23Q 9/02** (2013.01 - KR); **F23Q 9/045** (2013.01 - EP); **F23Q 9/08** (2013.01 - EP); **F23D 2209/20** (2013.01 - KR)

Citation (search report)  
• [XY] JP 2014201809 A 20141027 - NIPPON STEEL & SUMIKIN ENG CO, et al  
• [YA] JP S5899607 A 19830614 - MATSUSHITA ELECTRIC IND CO LTD  
• [YA] US 4175920 A 19791127 - GUERRE ROBERT P [US], et al  
• [YDA] JP 2013194991 A 20130930 - JFE STEEL CORP  
• [X] WO 2017048638 A1 20170323 - CLEARSIGN COMB CORP [US]  
• [XI] JP H07269817 A 19951020 - YAZAKI CORP  
• See references of WO 2018180694A1

Designated contracting state (EPC)  
AL 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 RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3604925 A1 20200205**; **EP 3604925 A4 20200401**; **EP 3604925 B1 20220511**; CN 110325794 A 20191011; CN 110325794 B 20210720; JP 6690779 B2 20200428; JP WO2018180694 A1 20191121; KR 102273957 B1 20210706; KR 20190113899 A 20191008; TW 201839342 A 20181101; TW I670457 B 20190901; WO 2018180694 A1 20181004

DOCDB simple family (application)  
**EP 18778121 A 20180319**; CN 201880013141 A 20180319; JP 2018010774 W 20180319; JP 2019509343 A 20180319; KR 20197025717 A 20180319; TW 107110302 A 20180326