Title (en)

Method of producing steam in a gas tube steam boiler and gas tube steam boiler for implementing said method

Title (de)

Verfahren für die Erzeugung von Dampf in einem Gasrohr-Dampfkessel und Gasrohr-Dampfkessel für die Anwendung dieses Verfahrens

Title (fr)

Méthode pour la production de vapeur dans une chaudière à tube de gaz et chaudière à tube de gaz pour la utilisation de cette méthode

Publication

EP 1876390 A1 20080109 (EN)

Application

EP 06388049 A 20060705

Priority

EP 06388049 A 20060705

Abstract (en)

A gas tube steam boiler comprising a heat exchange compartment (2) filled with water forming a water surface (2A), a steam head space (8) above the water surface and delimited by a cylindrical wall (1) with a substantially vertical axis (10) and a top plate (4), a steam outlet (6) communicating with the steam head space (8), gas tubes (3) extending through the heat exchange compartment (2) and the steam head space (8), means for supplying heated gas to the gas tubes (3) for generating a flow of steam from said water surface (2A) by heat exchange between the gas tubes (3) and the water, and a steam flow conduit (7',7") arranged in the steam head space (8) for conducting the flow of steam from the water surface (2A) to the steam outlet (6), at least one of the gas tubes (3) extending transversely through the conduit such that the flow of steam flows in a direction transverse, preferably generally orthogonal, to the gas tubes (3), the configuration of the conduit being such that more than half, preferably substantially all, of the steam in the flow is constrained to flow along a flow path which when projected on a horizontal surface has a length at least equal to the shortest distance between a first point of the wall (1) and a second point of the wall (1) horizontally opposite the first point, said distance, in the case the wall (1) is circular cylindrical, being the diameter D of the circular cylindrical wall.

IPC 8 full level

F22B 1/18 (2006.01); **F22B 9/04** (2006.01); **F22G 3/00** (2006.01); **F28D 1/02** (2006.01); **F28F 9/22** (2006.01); **F28F 13/08** (2006.01)

CPC (source: EP KR)

F22B 1/18 (2013.01 - KR); **F22B 1/1884** (2013.01 - EP); **F22B 9/04** (2013.01 - EP); **F22G 3/00** (2013.01 - KR); **F22G 3/006** (2013.01 - EP); **F28D 1/02** (2013.01 - KR); **F28D 1/0213** (2013.01 - EP); **F28D 7/16** (2013.01 - EP); **F28F 9/22** (2013.01 - EP KR)

Citation (search report)

- [XY] GB 1140222 A 19690115 - SCHMIDT SCHE HEISSDAMPF
- [XY] FR 809123 A 19370224
- [XD] US 1546665 A 19250721 - LANDIS FRANK F
- [Y] DE 10237681 A1 20040304 - RITTER EN UND UMWELTTECHNIK GM [DE]
- [Y] US 4991408 A 19910212 - LISZKA JOHN [CA]
- [A] US 3437077 A 19690408 - AMMON JOHANNES H, et al

Cited by

EP2789909A1; CN109000214A

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

EP 1876390 A1 20080109; CN 101512223 A 20090819; CN 101512223 B 20111207; DK 2044365 T3 20130812; EP 2044365 A1 20090408; EP 2044365 B1 20130515; JP 2009541705 A 20091126; KR 101009212 B1 20110119; KR 20090031606 A 20090326; WO 2008003322 A1 20080110

DOCDB simple family (application)

EP 06388049 A 20060705; CN 200780032644 A 20070705; DK 07764471 T 20070705; DK 2007000342 W 20070705; EP 07764471 A 20070705; JP 2009516904 A 20070705; KR 20097002269 A 20070705