

Title (en)

HEAT TREATMENT METHOD AND HEAT TREATMENT DEVICE

Title (de)

WÄRMEBEHANDLUNGSVERFAHREN UND WÄRMEBEHANDLUNGSVORRICHTUNG

Title (fr)

PROCÉDÉ DE TRAITEMENT THERMIQUE ET DISPOSITIF DE TRAITEMENT THERMIQUE

Publication

EP 3408416 B1 20211110 (DE)

Application

EP 17703345 A 20170125

Priority

- DE 102016201025 A 20160125
- EP 2017051510 W 20170125

Abstract (en)

[origin: CN206204351U] The utility model provides a heat treatment device (100), has first smelting pot (110) for heat steel (200) to being less than the temperature below the AC3 temperature, its characterized in that: heat treatment device (100) also have the station of processing (150) and second smelting pot (130), wherein handle station (150) including a device that makes one or more second area (220) the quick rapid cooling of steel (200) and this heat supply is borrowed with multiple mode heat supply in second smelting pot (130), at least first region or other regions (210) of steel (200) can be heated to being higher than the AC3 temperature.

IPC 8 full level

C21D 1/19 (2006.01); **C21D 1/18** (2006.01); **C21D 1/26** (2006.01); **C21D 1/62** (2006.01); **C21D 1/667** (2006.01); **C21D 1/673** (2006.01); **C21D 8/00** (2006.01); **C21D 9/00** (2006.01); **C21D 1/60** (2006.01); **C21D 1/613** (2006.01)

CPC (source: AT EP KR US)

C21D 1/19 (2013.01 - EP); **C21D 1/22** (2013.01 - AT); **C21D 1/26** (2013.01 - EP); **C21D 1/62** (2013.01 - AT EP); **C21D 1/667** (2013.01 - EP US); **C21D 1/673** (2013.01 - EP KR US); **C21D 1/78** (2013.01 - AT); **C21D 1/84** (2013.01 - AT); **C21D 8/005** (2013.01 - EP KR); **C21D 9/0062** (2013.01 - EP KR US); **C21D 9/0068** (2013.01 - EP KR US); **C21D 9/46** (2013.01 - AT); **F27B 9/028** (2013.01 - AT); **C21D 1/60** (2013.01 - EP); **C21D 1/613** (2013.01 - EP); **C21D 8/005** (2013.01 - US); **C21D 2211/001** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP US); **C21D 2221/00** (2013.01 - EP KR US)

Citation (examination)

- EP 2497840 A1 20120912 - SCHWARTZ EVA [DE]
- DE 102010049205 B4 20120426 - BRAUN ELISABETH [DE]
- US 2014070552 A1 20140313 - SHIMOTSU KOJI [JP]

Cited by

EP4174190A1

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

DOCDB simple family (publication)

DE 202016104194 U1 20170427; AT 15624 U1 20180315; BR 112018014947 A2 20181226; BR 112018014947 B1 20221122; CN 108884508 A 20181123; CN 108884508 B 20200814; CN 206204351 U 20170531; DE 102016201025 A1 20170727; EP 3408416 A1 20181205; EP 3408416 B1 20211110; ES 2904571 T3 20220405; HU E057631 T2 20220528; JP 2019506532 A 20190307; JP 2021179012 A 20211118; JP 7168450 B2 20221109; JP 7261267 B2 20230419; KR 102672034 B1 20240603; KR 20180119580 A 20181102; MX 2018008998 A 20190110; PL 3408416 T3 20220328; PT 3408416 T 20220126; US 2019032164 A1 20190131; WO 2017129602 A1 20170803

DOCDB simple family (application)

DE 202016104194 U 20160729; AT 2052016 U 20160823; BR 112018014947 A 20170125; CN 201621044071 U 20160908; CN 201780007568 A 20170125; DE 102016201025 A 20160125; EP 17703345 A 20170125; EP 2017051510 W 20170125; ES 17703345 T 20170125; HU E17703345 A 20170125; JP 2018538676 A 20170125; JP 2021118531 A 20210719; KR 20187024554 A 20170125; MX 2018008998 A 20170125; PL 17703345 T 20170125; PT 17703345 T 20170125; US 201716072677 A 20170125