

Title (en)

ELECTRIC HEATER DEVICE AND HEAT-TREATMENT FURNACE PROVIDED WITH SAME

Title (de)

ELEKTRISCHE HEIZVORRICHTUNG UND DAMIT VERSEHENER WÄRMEBEHANDLUNGSOFEN

Title (fr)

DISPOSITIF À ÉLÉMENT CHAUFFANT ÉLECTRIQUE ET FOURNEAU DE TRAITEMENT THERMIQUE MUNI DE CELUI-CI

Publication

EP 4109022 A4 20240221 (EN)

Application

EP 20920315 A 20201222

Priority

- JP 2020025454 A 20200218
- JP 2020047999 W 20201222

Abstract (en)

[origin: EP4109022A1] An electric heater device attached to an inner side wall of a heat treatment furnace, includes a bar having a rod shape, a bar support for supporting an end portion of the bar with the inner side wall, a plurality of hooks suspended from the bar, and an electric heater hooked and supported by the plurality of hooks.

IPC 8 full level

F27D 11/02 (2006.01); **F27B 5/14** (2006.01); **F27D 1/00** (2006.01)

CPC (source: EP)

F27B 5/14 (2013.01); **F27D 1/0036** (2013.01); **F27D 11/02** (2013.01); **F27B 2005/143** (2013.01)

Citation (search report)

- [X] DE 8808799 U1 19880929
- [X] US 4443881 A 19840417 - NORTHCUTT DONALD R [US]
- [X] AU 7112881 A 19821202 - RILEY P J
- [A] GB 1072931 A 19670621 - ASS ELECT IND
- [A] US 4403329 A 19830906 - WERYCH EWALD R [US]
- See references of WO 2021166430A1

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)

EP 4109022 A1 20221228; **EP 4109022 A4 20240221**; CN 115135944 A 20220930; JP 2021131171 A 20210909; JP 6795715 B1 20201202; TW 202132741 A 20210901; TW I821622 B 20231111; WO 2021166430 A1 20210826

DOCDB simple family (application)

EP 20920315 A 20201222; CN 202080096790 A 20201222; JP 2020025454 A 20200218; JP 2020047999 W 20201222; TW 109146166 A 20201225