Title (en)

MOLDING DEVICE AND MOLDING METHOD

Title (de)

FORMVORRICHTUNG UND FORMVERFAHREN

Title (fr)

DISPOSITIF DE MOULAGE ET PROCÉDÉ DE MOULAGE

Publication

EP 4122618 A1 20230125 (EN)

Application

EP 21771772 A 20210113

Priority

- JP 2020046649 A 20200317
- JP 2021000860 W 20210113

Abstract (en)

Provided is a forming device that forms a heated metal material. The forming device includes a die that performs quench forming by coming into contact with the metal material; and a cooling unit that cools the die. The cooling unit suppresses deterioration in hardenability to the metal material resulting from accumulation of heat to the die caused by repeated forming.

IPC 8 full level

B21D 26/033 (2006.01); **B21D 22/20** (2006.01); **B21D 24/00** (2006.01); **B21D 37/16** (2006.01)

CPC (source: EP KR US)

B21D 22/022 (2013.01 - EP KR); **B21D 22/20** (2013.01 - KR); **B21D 22/208** (2013.01 - EP); **B21D 24/00** (2013.01 - KR); **B21D 26/033** (2013.01 - KR US); **B21D 37/16** (2013.01 - EP KR); **C21D 1/18** (2013.01 - EP); **C21D 1/40** (2013.01 - EP); **C21D 1/667** (2013.01 - EP); **C21D 1/673** (2013.01 - EP); **C21D 8/105** (2013.01 - EP); **C21D 9/08** (2013.01 - EP); **C21D 9/085** (2013.01 - EP); **C21D 11/005** (2013.01 - EP); B21D 26/021 (2013.01 - EP); B21D 26/033 (2013.01 - EP)

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

US 2022410242 A1 20221229; CA 3173063 A1 20210923; CN 115210014 A 20221018; EP 4122618 A1 20230125; EP 4122618 A4 20230906; JP 2021146353 A 20210927; KR 20220151605 A 20221115; WO 2021186863 A1 20210923

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US 202217823513 A 20220830; CA 3173063 A 20210113; CN 202180014098 A 20210113; EP 21771772 A 20210113; JP 2020046649 A 20200317; JP 2021000860 W 20210113; KR 20227026231 A 20210113