Title (en)

ADDITIVE MANUFACTURING METHOD AND DEVICE

Title (de)

VERFAHREN UND VORRICHTUNG ZUR ADDITIVEN FERTIGUNG

Title (fr)

PROCÉDÉ ET DISPOSITIF DE FABRICATION ADDITIVE

Publication

EP 4171853 A1 20230503 (DE)

Application

EP 21754910 A 20210628

Priority

- DE 102020116972 A 20200626
- DE 2021100546 W 20210628

Abstract (en)

[origin: WO2021259428A1] The invention relates to an additive manufacturing method in which a component (10, 42, 43, 44, 45) is produced in layers using an energy beam (8, 41, 58) which solidifies a starting material (4) and is irradiated by energy beam irradiating means (9, 22, 31, 38, 39, 55, 59, 61) while the starting material (4) is held by a base surface (3, 15, 30, 36, 52) arranged on a base element (2, 16, 29, 35, 51). While the starting material (4) is being irradiated with the energy beam (8, 41, 58), the base element (2, 16, 29, 35, 51) is moved by a rotational component which has a base element rotational axis, wherein the starting material (4) is held on the base surface (3, 15, 30, 36, 52) by a centrifugal acceleration generated by the rotational component. The invention is characterized in that a rotational movement is produced for at least some of the energy beam irradiating means (9, 22, 31, 38, 39, 55, 59, 61). Analogously, at least one energy beam rotational axis (46) is proposed for rotating at least some of the energy beam irradiating means (9, 22, 31, 38, 39, 55, 59, 61) in an additive manufacturing device in which the starting material (4) is held on a base surface (3, 15, 30, 36, 52) by a centrifugal acceleration.

IPC 8 full level

B22F 10/28 (2021.01); **B22F 10/36** (2021.01); **B22F 12/37** (2021.01); **B22F 12/44** (2021.01); **B22F 12/46** (2021.01); **B22F 12/50** (2021.01); **B22F 12/60** (2021.01); **B23K 15/00** (2006.01); **B23K 26/342** (2014.01); **B29C 64/153** (2017.01); **B29C 64/205** (2017.01); **B29C 64/245** (2017.01); **B29C 64/264** (2017.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01)

CPC (source: EP US)

B22F 10/28 (2021.01 - EP); **B22F 10/36** (2021.01 - EP); **B22F 12/226** (2021.01 - EP); **B22F 12/37** (2021.01 - EP); **B22F 12/44** (2021.01 - EP); **B22F 12/46** (2021.01 - EP); **B22F 12/50** (2021.01 - EP); **B22F 12/60** (2021.01 - EP); **B23K 26/0622** (2015.10 - EP); **B23K 26/0823** (2013.01 - EP); **B23K 26/0876** (2013.01 - EP); **B23K 26/106** (2013.01 - EP); **B23K 26/14** (2013.01 - EP); **B23K 26/142** (2015.10 - EP); **B23K 26/342** (2015.10 - EP); **B29C 64/153** (2017.08 - EP US); **B29C 64/205** (2017.08 - EP); **B29C 64/241** (2017.08 - EP US); **B29C 64/264** (2017.08 - EP); **B29C 64/273** (2017.08 - US); **B33Y 10/00** (2014.12 - EP US); **B33Y 30/00** (2014.12 - EP US); **B33Y 50/02** (2014.12 - EP); B22F 12/43 (2021.01 - EP); B22F 12/45 (2021.01 - EP); Y02P 10/25 (2015.11 - 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)

DE 102020116972 A1 20211230; EP 4171853 A1 20230503; JP 2023532008 A 20230726; US 11820047 B2 20231121; US 2023211548 A1 20230706; WO 2021259428 A1 20211230

DOCDB simple family (application)

DE 102020116972 A 20200626; DE 2021100546 W 20210628; EP 21754910 A 20210628; JP 2022580002 A 20210628; US 202118011300 A 20210628