

Title (en)
APPARATUS FOR ADDITIVE MANUFACTURE OF FINISHED PRODUCTS

Title (de)
VORRICHTUNG ZUR ADDITIVEN FERTIGUNG VON FERTIGUNGSPRODUKTEN

Title (fr)
APPAREIL DE FABRICATION ADDITIVE DE PRODUITS FINIS

Publication
EP 4313453 A1 20240207 (DE)

Application
EP 22714400 A 20220311

Priority
• DE 102021107265 A 20210323
• EP 2022056380 W 20220311

Abstract (en)
[origin: WO2022200081A1] The invention relates to an apparatus (1) for the additive manufacture of finished products (2) by successive selective consolidation of layers (S) of a powdered construction material (15), which can be consolidated by means of irradiation, at points which correspond to a cross-section of the finished product (2). The apparatus (1) comprises at least one construction container (5) comprising at least one height-adjustable construction platform (12), and also at least one beam source (21) for irradiation of construction material (13) to be consolidated in a construction area (8) above the construction platform (12). Furthermore, the apparatus (1) comprises at least one coater (16), the coater (16) being designed to apply layers (S) of the construction material (15) to the construction platform (12) and/or to a previously applied layer. The apparatus (1) also comprises at least one residual powder chamber (50) having a receiving opening (55) to receive excess powdered material (13) moved by the coater (16), a region (B) between the construction area (8) and the receiving opening (55) having at least one flow restricting device (60, 61) for the powdered construction material (13). Moreover, a region between the construction area (8) and the residual powder chamber (50) and/or at least a part of the residual powder chamber (50) is preferably covered by at least one cover element (54) leaving the receiving opening (55) free, the surface of the cover element (54) having at least one flow restricting device (60, 61) for the powdered construction material (13). The invention also relates to a cover element (54) for such an apparatus (1), and to a method for producing such an apparatus (1) and such a cover element (54) and to the use of the cover element (54) for the apparatus (1).

IPC 8 full level
B22F 10/28 (2021.01); **B22F 10/73** (2021.01); **B29C 64/153** (2017.01); **B29C 64/307** (2017.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01); **B33Y 40/00** (2020.01)

CPC (source: EP US)
B22F 10/28 (2021.01 - EP); **B22F 10/73** (2021.01 - EP); **B29C 64/153** (2017.07 - EP US); **B29C 64/245** (2017.07 - EP US); **B29C 64/307** (2017.07 - EP US); **B29C 64/357** (2017.07 - EP); **B33Y 10/00** (2014.12 - EP); **B33Y 30/00** (2014.12 - EP); **B33Y 40/00** (2014.12 - EP); **B33Y 10/00** (2014.12 - US); **B33Y 30/00** (2014.12 - US); **B33Y 40/00** (2014.12 - US); **Y02P 10/25** (2015.11 - EP)

Citation (search report)
See references of WO 2022200081A1

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 102021107265 A1 20220929; CN 117083139 A 20231117; EP 4313453 A1 20240207; US 2024190073 A1 20240613; WO 2022200081 A1 20220929

DOCDB simple family (application)
DE 102021107265 A 20210323; CN 202280020980 A 20220311; EP 2022056380 W 20220311; EP 22714400 A 20220311; US 202218282866 A 20220311