

Title (en)

DETECTION AND LOCATION OF POWDER SPREADING ANOMALIES USING ACOUSTIC EMISSION MEASUREMENTS

Title (de)

ERKENNUNG UND ORTUNG VON PULVERVERTEILUNGSANOMALIEN MITTELS SCHALLEMISSIONSMESSUNGEN

Title (fr)

DETECTION ET LOCALISATION D'ANOMALIES D'ETALEMENTS DE POUDRE PAR MESURES D'EMISSIONS ACOUSTIQUES

Publication

**EP 4168196 A1 20230426 (FR)**

Application

**EP 21736635 A 20210609**

Priority

- FR 2006426 A 20200619
- FR 2021051038 W 20210609

Abstract (en)

[origin: WO2021255367A1] Device (100) for manufacturing a part using a method of selective fusion or selective sintering on a powder bed (103) comprising a build plate (101) having a working surface (102) parallel to a first direction (X) and to a second direction (Y), on which surface the part is intended to be manufactured, a wiper (110) which is placed on the working surface and capable of moving and spreading the powder in the first direction on the working surface, characterised in that it further comprises: - at least two acoustic sensors (121, 122) which are fixed and spaced in the second direction on the wiper and capable of detecting an acoustic signal; - a laser range finder (130) pointing in the first direction and capable of determining a position of the wiper in the first direction; and - a control system (140) capable of detecting an anomaly (150) on the basis of the acoustic signal and of determining a position of the anomaly on the basis of the acoustic signal detected by the acoustic sensors and a position signal measured by the laser range finder.

IPC 8 full level

**B22F 3/105** (2006.01); **B22F 10/28** (2021.01); **B22F 10/31** (2021.01); **B22F 10/37** (2021.01); **B22F 10/85** (2021.01); **B22F 12/67** (2021.01); **B22F 12/90** (2021.01); **B29C 64/153** (2017.01); **B29C 64/214** (2017.01); **B29C 64/393** (2017.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01); **B33Y 50/02** (2015.01)

CPC (source: EP US)

**B22F 10/28** (2021.01 - EP US); **B22F 10/37** (2021.01 - EP US); **B22F 10/85** (2021.01 - EP US); **B22F 12/67** (2021.01 - EP US); **B22F 12/90** (2021.01 - EP US); **B33Y 10/00** (2014.12 - EP); **B33Y 30/00** (2014.12 - EP); **B33Y 50/02** (2014.12 - EP); **B33Y 10/00** (2014.12 - US); **B33Y 30/00** (2014.12 - US); **B33Y 50/02** (2014.12 - US); **Y02P 10/25** (2015.11 - EP)

Citation (search report)

See references of WO 2021255367A1

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)

**FR 3111574 A1 20211224**; **FR 3111574 B1 20220812**; EP 4168196 A1 20230426; US 2023219140 A1 20230713; WO 2021255367 A1 20211223

DOCDB simple family (application)

**FR 2006426 A 20200619**; EP 21736635 A 20210609; FR 2021051038 W 20210609; US 202118002085 A 20210609