

Title (en)
METAL MEMBER AND METHOD FOR MANUFACTURING SAME

Title (de)
METALLELEMENT UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)
ÉLÉMENT MÉTALLIQUE ET SON PROCÉDÉ DE FABRICATION

Publication
EP 3616808 A4 20201230 (EN)

Application
EP 18790512 A 20180110

Priority
• JP 2017085858 A 20170425
• JP 2018000273 W 20180110

Abstract (en)
[origin: US2020024691A1] A metal member related to the present invention is provided with crystal grains of a metal and a granular reinforcing substance formed at boundaries of the crystal grains. The reinforcing substance includes grains of a shape with a grain area equivalent grain size larger than 1/100 of a grain area equivalent grain size of the crystal grains. The granular reinforcing substance preferably includes grains with a grain area equivalent grain size smaller than 1/5 of the grain area equivalent grain size of the crystal grains. Additionally, the granular reinforcing substance preferably includes grains of a shape wherein a value of a length, in a first direction in which a length thereof is longest, divided by a length of a longest part in a direction orthogonal to the first direction is smaller than 5. A metal member with a high strength at high temperatures is manufactured by metal powder injection molding.

IPC 8 full level
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CPC (source: EP US)
B22F 3/10 (2013.01 - US); **B22F 3/225** (2013.01 - EP US); **C22C 1/05** (2013.01 - US); **C22C 1/10** (2013.01 - EP US); **C22C 32/00** (2013.01 - EP); **C22C 33/02** (2013.01 - US); **B22F 2302/10** (2013.01 - US); **B22F 2302/105** (2013.01 - US); **B22F 2302/20** (2013.01 - US); **B22F 2302/40** (2013.01 - US); **B22F 2998/10** (2013.01 - EP US); **C22C 33/0292** (2013.01 - EP)

C-Set (source: EP US)
B22F 2998/10 + B22F 1/10 + C22C 1/05 + B22F 3/225 + B22F 3/10

Citation (search report)
• [E] EP 3444366 A1 20190220 - MITSUBISHI HEAVY IND AERO ENGINES LTD [JP]
• [X] WO 2016136894 A1 20160901 - KYOCERA CORP [JP]
• [A] US 7820238 B2 20101026 - DEBICCARI ANDREW [US], et al
• [A] US 9627857 B2 20170418 - SUMOYAMA DAISUKE [JP], et al
• See also references of WO 2018198440A1

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