

## Title (en)

FINE CRYSTALLITE HIGH-PERFORMANCE METAL ALLOY MEMBER AND METHOD FOR MANUFACTURING SAME

## Title (de)

FEINKRISTALLINES HOCHLEISTUNGS-METALLLEGIERUNGSELEMENT UND VERFAHREN ZU SEINER HERSTELLUNG

## Title (fr)

COMPOSANT D'ALLIAGE DE MÉTAL HAUTE PERFORMANCE EN CRISTALLITE FINE ET PROCÉDÉ POUR FABRIQUER CELUI-CI

## Publication

**EP 2719780 A4 20141231 (EN)**

## Application

**EP 12796739 A 20120410**

## Priority

- JP 2011138909 A 20110606
- JP 2012060518 W 20120410

## Abstract (en)

[origin: EP2719780A1] Provided by the present invention are a fine crystallite high-function metal alloy member, a method for manufacturing the same, and a business development method thereof, in which a crystallite of a metal alloy including a high-purity metal alloy whose crystal lattice is a face-centered cubic lattice, a body-centered cubic lattice, or a close-packed hexagonal lattice is made fine with the size in the level of nanometers (10<sup>-9</sup> m to 10<sup>-6</sup> m) and micrometers (10<sup>-6</sup> m to 10<sup>-3</sup> m), and the form thereof is adjusted, thereby remedying drawbacks thereof and enhancing various characteristics without losing superior characteristics owned by the alloy.

## IPC 8 full level

**C22C 1/02** (2006.01); **C22C 5/02** (2006.01); **C22C 5/04** (2006.01); **C22C 5/06** (2006.01); **C22C 9/04** (2006.01); **C22C 14/00** (2006.01); **C22C 21/06** (2006.01); **C22C 23/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/08** (2006.01); **C22F 1/00** (2006.01)

## CPC (source: EP US)

**B22D 25/06** (2013.01 - US); **C21D 5/00** (2013.01 - EP US); **C21D 6/001** (2013.01 - EP US); **C22C 1/02** (2013.01 - EP US); **C22C 1/026** (2013.01 - EP US); **C22C 1/06** (2013.01 - EP US); **C22C 5/02** (2013.01 - EP US); **C22C 5/04** (2013.01 - EP US); **C22C 5/06** (2013.01 - EP US); **C22C 5/08** (2013.01 - US); **C22C 9/00** (2013.01 - EP US); **C22C 9/04** (2013.01 - EP US); **C22C 14/00** (2013.01 - EP US); **C22C 21/00** (2013.01 - US); **C22C 21/06** (2013.01 - EP US); **C22C 23/00** (2013.01 - US); **C22C 23/02** (2013.01 - EP US); **C22C 30/00** (2013.01 - EP US); **C22C 30/02** (2013.01 - US); **C22C 38/00** (2013.01 - US); **C22C 38/02** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/08** (2013.01 - EP US); **C22F 1/00** (2013.01 - EP US); **C22F 1/04** (2013.01 - EP US); **C22F 1/047** (2013.01 - EP US); **C22F 1/06** (2013.01 - EP US); **C22F 1/08** (2013.01 - EP US); **C22F 1/14** (2013.01 - EP US); **C22F 1/16** (2013.01 - EP US); **C22F 1/183** (2013.01 - EP US); **A44C 27/003** (2013.01 - EP US)

## Citation (search report)

- [X] WO 2008072485 A1 20080619 - OGASA KAZUO [JP]
- [X] JP 2009030146 A 20090212 - OGASA KAZUO
- [X] JP 4417115 B2 20100217
- [X] EP 0922780 A1 19990616 - OGASA KAZUO [JP]
- [X] US 2003034097 A1 20030220 - OGASA KAZUO [JP]
- [X] JP H093612 A 19970107 - NISHIKI TOKUSHU KINZOKU KENKYU
- [X] US 6045635 A 20000404 - OGASA KAZUO [JP]
- See references of WO 2012169285A1

## 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

## DOCDB simple family (publication)

**EP 2719780 A1 20140416**; **EP 2719780 A4 20141231**; CN 103748243 A 20140423; JP 2012251235 A 20121220; US 2014212324 A1 20140731; WO 2012169285 A1 20121213

## DOCDB simple family (application)

**EP 12796739 A 20120410**; CN 201280037682 A 20120410; JP 2011138909 A 20110606; JP 2012060518 W 20120410; US 201214124212 A 20120410