

Title (en)
Gold alloy with improved hardness

Title (de)
Goldlegierung mit verbesserter Härte

Title (fr)
Alliage d'or à dureté améliorée

Publication
EP 2402467 B1 20150617 (FR)

Application
EP 10167859 A 20100630

Priority
EP 10167859 A 20100630

Abstract (en)
[origin: EP2402467A1] Gold-based alloy (I) comprises a mixture comprising gold (at least 75 wt.%), a second metal (0.1-2.1 wt.%) selected for its ability to form precipitates with gold, and at least one filler metal (balance) selected for its ability to sustain a stable face-centered cubic structure and for its ability to increase the solubility of the second metal in gold, where the mixture further comprises at least one precipitate of the second metal with gold selected to obtain a hardness of greater than 250 HV. An independent claim is included for preparing (I) comprising: selecting the second metal; selecting the filler metal; creating the insertion condition in a face-centered cubic structure resulting of the dissolution of a mixture of gold, the second metal, and the filler metal and precipitates of the second metal with gold; preparing the mixture; placing the mixture at 400-700[deg] C; rapid cooling; after rapid cooling, treating obtained material at 200-400[deg] C for producing the selected precipitate of the second metal with gold; increasing the selected precipitate to obtained material for a sufficient time to obtain the required hardness; and cooling the material in room temperature.

IPC 8 full level
A44C 27/00 (2006.01); **C22C 5/02** (2006.01); **C22F 1/14** (2006.01)

CPC (source: EP US)
A44C 27/003 (2013.01 - EP US); **C22C 5/02** (2013.01 - EP US); **C22F 1/14** (2013.01 - EP US)

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 SE SI SK SM TR

DOCDB simple family (publication)
EP 2402467 A1 20120104; EP 2402467 B1 20150617; CH 705500 B1 20151231; CN 103038377 A 20130410; CN 103038377 B 20160427; EP 2588635 A2 20130508; EP 2588635 B1 20160406; HK 1184198 A1 20140117; JP 2013531736 A 20130808; US 2013153097 A1 20130620; WO 2012000803 A2 20120105; WO 2012000803 A3 20120920

DOCDB simple family (application)
EP 10167859 A 20100630; CH 30022011 A 20110616; CN 201180032311 A 20110616; EP 11725466 A 20110616; EP 2011060041 W 20110616; HK 13111451 A 20131010; JP 2013517158 A 20110616; US 201113805230 A 20110616