Title (en)

FILM FORMING DEVICE AND METHOD FOR FORMING METAL FILM USING THE SAME

Title (de)

FILMAUSBILDUNGSVORRICHTUNG UND VERFAHREN ZUR AUSBILDUNG EINES METALLFILMS UNTER VERWENDUNG DESSELBEN

Title (fr)

DISPOSITIF DE FORMATION DE FILM ET PROCÉDÉ DE FORMATION DE FILM MÉTALLIQUE L'UTILISANT

Publication

EP 3680367 A3 20200930 (EN)

Application

EP 19205455 A 20191025

Priority

JP 2018236058 A 20181218

Abstract (en)

A film forming device 100 for forming a metal film at a high current efficiency and a method for forming the metal film using the film forming device 100 are provided. The film forming device 100 to form the metal film includes an anode 20, a cathode 30, a porous membrane 60 disposed between the anode 20 and the cathode 30 to be capable of contacting the cathode 30, a solution container 50 defining a solution containing space 55 between the anode 20 and the porous membrane 60, and a power supply 40 applying a voltage between the anode 20 and the cathode 30. The porous membrane 60 is composed of a polyolefin chain without an ion-exchange functional group.

IPC 8 full level

C25D 17/00 (2006.01); **C25D 3/30** (2006.01); C25D 3/12 (2006.01)

CPC (source: CN EP KR US)

C25D 3/12 (2013.01 - CN EP US); **C25D 3/30** (2013.01 - EP US); **C25D 3/32** (2013.01 - CN US); **C25D 5/06** (2013.01 - US); **C25D 17/00** (2013.01 - CN); **C25D 17/002** (2013.01 - CN KR); **C25D 17/10** (2013.01 - CN); **C25D 17/14** (2013.01 - EP); **C25D 21/02** (2013.01 - CN EP KR); C25D 5/12 (2013.01 - EP)

Citation (search report)

- [X] US 2012138471 A1 20120607 - MAYER STEVEN T [US], et al
- [X] EP 2905361 A1 20150812 - TOYOTA MOTOR CO LTD [JP]
- [X] US 2005000820 A1 20050106 - MISHIMA KOJI [JP], et al
- [A] WO 9925902 A1 19990527 - NOVELLUS SYSTEMS INC [US], et al
- [X] JP 2016222991 A 20161228 - TOYOTA CENTRAL RES & DEV, et al

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

DOCDB simple family (publication)

EP 3680367 A2 20200715; **EP 3680367 A3 20200930**; CN 111334840 A 20200626; JP 2020097764 A 20200625; KR 20200075735 A 20200626; US 2020190685 A1 20200618

DOCDB simple family (application)

EP 19205455 A 20191025; CN 201911300780 A 20191217; JP 2018236058 A 20181218; KR 20190146365 A 20191115; US 201916658163 A 20191021