

Title (en)

METAL MATERIAL SURFACE TREATMENT METHOD, AND METAL MATERIAL

Title (de)

OBERFLÄCHENBEHANDLUNGSVERFAHREN FÜR METALLMATERIAL UND METALLMATERIAL

Title (fr)

PROCÉDÉ DE TRAITEMENT DE LA SURFACE D'UN MATÉRIAU EN MÉTAL ET MATÉRIAU EN MÉTAL

Publication

**EP 2818578 B1 20180822 (EN)**

Application

**EP 13751445 A 20130221**

Priority

- JP 2012038556 A 20120224
- JP 2012038560 A 20120224
- JP 2013054412 W 20130221

Abstract (en)

[origin: EP2818578A1] A metal material surface treatment method, includes: immersing, as a cathode electrode, a target material that is made of the metal material and that has a target surface, and an anode electrode, in an electrolyte solution; applying a voltage A that is 70 V or more and in a voltage range in which the cathode electrode is not oxidized or does not melt, between the cathode electrode and the anode electrode; and applying a voltage B that is in the voltage range and that differs from the voltage A by 5 V or more, between the cathode electrode and the anode electrode. This method can add a new function to the surface of a metal material without requiring a lot of labor and high cost.

IPC 8 full level

**C25F 3/06** (2006.01)

CPC (source: EP KR)

**C25D 5/48** (2013.01 - KR); **C25D 21/12** (2013.01 - KR); **C25F 3/06** (2013.01 - EP)

Cited by

CN106623426A; US2017114472A1; US10458037B2

Designated contracting state (EPC)

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**EP 2818578 A1 20141231**; **EP 2818578 A4 20150916**; **EP 2818578 B1 20180822**; CN 104145047 A 20141112; CN 104145047 B 20170811; IN 1651KON2014 A 20151023; JP 5835455 B2 20151224; JP WO2013125657 A1 20150730; KR 101668542 B1 20161021; KR 20140117579 A 20141007; TW 201343983 A 20131101; TW I496959 B 20150821; WO 2013125657 A1 20130829

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