Title (en)

TIMEPIECE COMPONENT WITH IMPROVED TRIBOLOGY

Title (de)

UHRWERKKOMPONENTE MIT VERBESSERTER TRIBOLOGIE

Title (fr)

COMPOSANT D'HORLOGERIE A TRIBOLOGIE AMELIOREE

Publication

EP 3171230 B1 20190227 (FR)

Application

EP 15195386 A 20151119

Priority

EP 15195386 A 20151119

Abstract (en)

[origin: US2017146955A1] A timepiece component comprising a dry, self-lubricating surface layer, consisting entirely of boric acid, having a thickness of 50 nanometres to 1 micrometre. A method for coating a timepiece component with a self-lubricating surface layer, including dissolving, at ambient temperature, boric acid H3BO3 granules or powder in a solvent chosen from among water, isopropanol, propanol, methanol, methyl propanol, glycol ethylene, glycerol, acetone, in a proportion of 0.01% to 1.0% by mass; mixing and agitating the solution; dipping the component to be coated in this solution; removing the component from the solution and allowing the liquid phase to evaporate, with the surface forming the surface layer kept away from any foreign bodies, until evaporation is complete; and repeating the dipping and evaporation steps until the desired layer thickness is obtained, from 10 nanometres to 1 micrometer, or more particularly from 50 nanometres to 1 micrometre.

IPC 8 full level

G04B 15/14 (2006.01); **G04B 31/08** (2006.01); **G04D 3/00** (2006.01)

CPC (source: CN EP RU US)

G04B 15/14 (2013.01 - CN EP RU US); **G04B 31/08** (2013.01 - CN EP RU US); **G04D 3/0087** (2013.01 - EP RU US)

Citation (examination)

US 2009186783 A1 20090723 - MARTIN JEAN MICHEL [FR], et al

Cited by

EP3968095A1; EP3968096A1; WO2022058160A1; WO2022058159A1

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 3171230 A1 20170524; **EP 3171230 B1 20190227**; CN 106919036 A 20170704; CN 106919036 B 20190809; JP 2017096932 A 20170601; JP 6231644 B2 20171115; RU 2718342 C1 20200402; US 2017146955 A1 20170525

DOCDB simple family (application)

EP 15195386 A 20151119; CN 201611011906 A 20161117; JP 2016214141 A 20161101; RU 2016145143 A 20161118; US 201615337060 A 20161028