

Title (en)
Clockwork mechanism with lubricant-free contact torque

Title (de)
Uhrwerksmechanismus mit ungeschmierter Kontaktkupplung

Title (fr)
Mécanisme d'horlogerie à couple de contact sans lubrification

Publication
EP 2945025 A1 20151118 (FR)

Application
EP 14168699 A 20140516

Priority
EP 14168699 A 20140516

Abstract (en)
[origin: US2015331391A1] A timepiece mechanism comprising including a pair of components with a first component including a material taken from a first group including solid monocrystalline, natural diamond, micro- or nano-crystalline CVD diamond, solid monocrystalline diamond, and amorphous carbon "DLC", and having a first friction surface arranged to cooperate with a second friction surface included in a second opposing component and the second component includes, at least in its second friction surface, a material with a high concentration of boron, greater than 10 atomic percent, and, in a particular embodiment, this second opposing component includes at least one ceramic containing boron. Method for manufacturing such a mechanism. Method for transforming such a mechanism.

Abstract (fr)
Mécanisme (100) d'horlogerie comportant un couple (1) de composants avec un premier composant (2) comportant un matériau pris dans un premier groupe comportant le diamant naturel, le diamant CVD micro- ou nanocristallin, le diamant massif monocristallin, et le carbone amorphe « DLC », et dont une première surface de frottement (21) est agencée pour coopérer avec une deuxième surface de frottement (31) que comporte un deuxième composant (3) antagoniste. Ce deuxième composant (3) comporte au moins au niveau de sa deuxième surface de frottement (31), un matériau avec une forte concentration de bore, supérieure à 10% atomique. Dans une réalisation particulière ce deuxième composant (3) comporte au moins une céramique contenant du bore. Procédé de réalisation d'un tel mécanisme. Procédé de transformation d'un tel mécanisme.

IPC 8 full level
G04B 11/00 (2006.01); **G04B 13/02** (2006.01); **G04B 15/14** (2006.01)

CPC (source: EP RU US)
G04B 13/02 (2013.01 - RU US); **G04B 13/027** (2013.01 - EP US); **G04B 15/14** (2013.01 - EP RU US); **G04D 3/00** (2013.01 - EP US); **Y10T 29/49581** (2015.01 - EP RU US)

Citation (applicant)
A. ERDEMIR; C. DONNET, TRIBOLOGY OF DIAMOND, DIAMOND-LIKE CARBON, AND RELATED FILMS

Citation (search report)
• [YA] EP 1233314 A1 20020821 - DAMASKO KONRAD [DE]
• [YA] EP 0732635 A1 19960918 - SUISSE ELECTRONIQUE MICROTECH [CH]

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EP4303666A1

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 2945025 A1 20151118; EP 2945025 B1 20180207; CH 709665 A2 20151130; CN 105093898 A 20151125; CN 105093898 B 20171003; HK 1218002 A1 20170127; JP 2015219242 A 20151207; JP 6073962 B2 20170201; KR 101700031 B1 20170126; KR 20150132024 A 20151125; RU 2605828 C1 20161227; TW 201606459 A 20160216; TW I551963 B 20161001; US 2015331391 A1 20151119; US 9658597 B2 20170523

DOCDB simple family (application)
EP 14168699 A 20140516; CH 7472014 A 20140516; CN 201510250452 A 20150515; HK 16105842 A 20160523; JP 2015099694 A 20150515; KR 20150068073 A 20150515; RU 2015118308 A 20150515; TW 104115262 A 20150513; US 201514707696 A 20150508