

Title (en)

MICROMECHANICAL COMPONENT ALLOWING CONTAINMENT OF A LUBRICATING SUBSTANCE

Title (de)

MIKROMECHANISCHE KOMPONENTE, DIE DIE EINSCHLIESSUNG EINER SCHMIERSUBSTANZ ERLAUBT

Title (fr)

COMPOSANT DE MICROMÉCANIQUE PERMETTANT LE CONFINEMENT D'UNE SUBSTANCE LUBRIFIANTE

Publication

**EP 3761123 A1 20210106 (FR)**

Application

**EP 19184822 A 20190705**

Priority

EP 19184822 A 20190705

Abstract (en)

[origin: WO2021005423A1] Micromechanical component (10) intended for clock mechanisms, wherein at least one portion of the component consists of a crystalline mineral material with a carbon or alumina basis and comprises at least one contact surface (100) intended to be brought into sliding and/or pivoting contact; the contact surface (100) locally comprising at least one microstructured area (101) having a three-dimensional texture; the three-dimensional texture being formed of microcavities (20), making the microstructured area (110) more oleophobic than the non-microstructured contact surface (100), and/or formed of micro pillars (30) making the microstructured area (110) more oleophilic than the non-microstructured contact surface (100); the microstructured area (110) being configured to locally confine a lubricant substance to a lubricated portion (120) of the contact surface (100).

Abstract (fr)

Composant (10) de micromécanique destiné aux mécanismes d'horlogerie, au moins une partie du composant étant constituée dans un matériau minéral cristallin à base de carbone ou d'alumine comprenant au moins une surface de contact (100) destinée à venir en contact en glissement et/ou en pivotement; la surface de contact (100) comprenant localement au moins une zone microstructurée (101) présentant une texture tridimensionnelle; la texture tridimensionnelle étant formée de microcavités (20), rendant la zone microstructurée (110) plus oléophobe que la surface de contact (100) non microstructurée, et/ou formée de micro-piliers (30) rendant la zone microstructurée (110) plus oléophile que la surface de contact (100) non microstructurée; la zone microstructurée (110) est configurée pour confiner localement une substance lubrifiante sur une portion lubrifiée (120) de la surface de contact (100).

IPC 8 full level

**G04B 31/08** (2006.01); **G04B 13/02** (2006.01); **G04B 15/14** (2006.01); **G04B 31/008** (2006.01)

CPC (source: EP US)

**G04B 13/02** (2013.01 - EP); **G04B 15/14** (2013.01 - EP); **G04B 31/008** (2013.01 - EP US); **G04B 31/08** (2013.01 - EP US)

Citation (applicant)

CH 713426 A2 20180815 - SEIKO INSTR INC [JP]

Citation (search report)

- [XAI] EP 3002637 A1 20160406 - RICHEMONT INT SA [CH]
- [A] EP 3141520 A1 20170315 - NIVAROX FAR SA [CH]
- [A] EP 3067757 A1 20160914 - SWATCH GROUP RES & DEV LTD [CH]
- [A] WO 2014012039 A1 20140116 - HARVARD COLLEGE [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 RS SE SI SK SM TR

Designated extension state (EPC)

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**EP 3761123 A1 20210106**; CN 114026504 A 20220208; CN 114026504 B 20221111; JP 2022538344 A 20220901; JP 7316391 B2 20230727; US 2022357706 A1 20221110; WO 2021005423 A1 20210114

DOCDB simple family (application)

**EP 19184822 A 20190705**; CN 202080048923 A 20200327; IB 2020052901 W 20200327; JP 2021577901 A 20200327; US 202017624172 A 20200327