

Title (en)  
Part for clockwork

Title (de)  
Bauteil für Uhrwerk

Title (fr)  
Pièce pour mouvement d'horlogerie

Publication  
**EP 2757424 A1 20140723 (FR)**

Application  
**EP 13151671 A 20130117**

Priority  
EP 13151671 A 20130117

Abstract (en)  
The pivot pin (1) includes at least one pivot (3) at at least one of the ends of the pivot pin. The pivot is formed of a composite material having a metallic matrix including at least one metal selected from among nickel, titanium, chromium, zirconium, silver, gold, platinum, silicon, molybdenum, aluminum or an alloy of the above metals. The matrix is charged with hard particles selected from among tungsten carbide, titanium carbide, tantalum carbide, titanium nitride, titanium carbonitride, aluminum oxide, zirconium oxide, chromium oxide, silicon carbide, molybdenum silicide, aluminum nitride or their combination, so as to limit the sensitivity of the pin to magnetic fields.

Abstract (fr)  
L'invention se rapporte à un axe de pivotement pour mouvement horloger (1) comportant au moins un pivot à au moins une de ses extrémités, caractérisé en ce que ledit au moins un pivot est formé d'un matériau composite ayant une matrice métallique comprenant au moins un métal choisi parmi le nickel, le titane, le chrome, le zirconium, l'argent, l'or, le platine, le silicium, le molybdène, l'aluminium ou un alliage de ces derniers, ladite matrice étant chargée de particules dures choisies parmi, WC, TiC, TaC, TiN, TiCN, Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, Cr<sub>2</sub>O<sub>3</sub>, SiC, MoSi<sub>2</sub>, Al N ou une combinaison de ces derniers, afin de limiter la sensibilité de l'axe aux champs magnétiques L'invention concerne le domaine des mouvements d'horlogerie.

IPC 8 full level  
**G04B 1/16** (2006.01); **G04B 13/02** (2006.01); **G04B 15/14** (2006.01); **G04B 17/32** (2006.01)

CPC (source: EP RU US)  
**C22C 29/00** (2013.01 - RU); **G04B 1/04** (2013.01 - RU); **G04B 1/16** (2013.01 - EP US); **G04B 13/02** (2013.01 - EP US);  
**G04B 13/022** (2013.01 - EP US); **G04B 15/14** (2013.01 - EP US); **G04B 17/063** (2013.01 - EP US); **G04B 17/32** (2013.01 - EP US);  
**G04B 43/00** (2013.01 - RU); **G04B 43/007** (2013.01 - EP US)

Citation (search report)  
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• [A] FR 2183549 A1 19731221 - UGINE CARBONE [FR]  
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EP3594756A1; CN110703578A; US10369660B2; US11561513B2; US11982977B2; EP3258325B1; EP3584640B1

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 2757424 A1 20140723; EP 2757424 B1 20180516**; CH 707503 A2 20140731; CN 103941571 A 20140723; CN 110275418 A 20190924;  
CN 110275418 B 20211116; HK 1200222 A1 20150731; JP 2014137377 A 20140728; JP 2016053589 A 20160414; JP 6223408 B2 20171101;  
RU 2014101335 A 20150727; RU 2655874 C2 20180529; US 2014198624 A1 20140717; US 9377760 B2 20160628

DOCDB simple family (application)  
**EP 13151671 A 20130117**; CH 1982013 A 20130117; CN 201410022901 A 20140117; CN 201910430757 A 20140117;  
HK 15100661 A 20150121; JP 2014006506 A 20140117; JP 2015239940 A 20151209; RU 2014101335 A 20140116;  
US 201414153150 A 20140113