

Title (en)
REGULATING ELEMENT FOR WATCH

Title (de)
REGULIERORGAN FÜR KLEINUHR

Title (fr)
ORGANE RÉGULATEUR DE MONTRE

Publication
EP 2703911 A1 20140305 (FR)

Application
EP 12182816 A 20120903

Priority
EP 12182816 A 20120903

Abstract (en)
The element (1) has a balance (2) designed as a beam oscillating about an axis (D) and subjected to a restoring moment exerted by a torsion return unit (4). The balance comprises securing units (10) used to oscillate the balance integrally with a torsion wire (5) forming the torsion return unit of the balance. The torsion wire has elasticity modulus greater than 100 Gigapascal and yield stress greater than 2000 Megapascal. The wire is made of glass metal of Metglas MBF20 (RTM: thin amorphous metal alloy ribbon). An independent claim is also included for a movement.

Abstract (fr)
Organe régulateur (1) d'horlogerie, comportant au moins un balancier (2) pivotant autour d'un axe de pivotement (D) et soumis à un couple de rappel exercé par des moyens de rappel en torsion (4). Ledit au moins un balancier (2) comporte des moyens de fixation (10) le rendant solidaire en pivotement d'un fil de torsion (5) qui constitue lesdits moyens de rappel en torsion (4) propres audit au moins un balancier (2), et ledit fil de torsion (5) a un module d'élasticité supérieur à 100 GPa, et une limite élastique supérieure à 2000 MPa.

IPC 8 full level
G04B 17/10 (2006.01)

CPC (source: EP RU US)
G04B 17/10 (2013.01 - EP US); **G04B 18/02** (2013.01 - EP US); **G04B 17/10** (2013.01 - RU); **G04B 18/02** (2013.01 - RU)

Citation (search report)

- [Y] GB 616969 A 19490131 - CLEMEN JORGENSEN
- [Y] US 5772803 A 19980630 - PEKER ATAKAN [US], et al
- [Y] US 3635013 A 19720118 - BERTSCH HANNS F, et al
- [Y] DE 251558 C
- [Y] EP 2133756 A2 20091216 - ROLEX SA [CH]
- [Y] WO 2011069273 A1 20110616 - ROLEX SA [CH], et al
- [Y] EP 2154581 A1 20100217 - ROLEX SA [CH]

Cited by
EP3273309A1; CN114964588A; US10234822B2; EP3379342B1

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 2703911 A1 20140305; EP 2703911 B1 20180411; CN 104769509 A 20150708; CN 104769509 B 20170616; EP 2893404 A2 20150715; EP 2893404 B1 20160706; HK 1212049 A1 20160603; JP 2015530569 A 20151015; JP 6078156 B2 20170208; KR 101777484 B1 20170911; KR 20150052236 A 20150513; RU 2015112142 A 20161020; RU 2625733 C2 20170718; US 2015212490 A1 20150730; US 9201399 B2 20151201; WO 2014033309 A2 20140306; WO 2014033309 A3 20140424; WO 2014033309 A4 20140612

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EP 12182816 A 20120903; CN 201380057258 A 20130903; EP 13756164 A 20130903; EP 2013068126 W 20130903; HK 15112790 A 20151229; JP 2015529049 A 20130903; KR 20157008535 A 20130903; RU 2015112142 A 20130903; US 201314423815 A 20130903