

Title (en)
SHOCK PROTECTION OF A RESONATOR MECHANISM WITH ROTATABLE FLEXIBLE GUIDING

Title (de)
STOSSDÄMPFUNGSSCHUTZ EINES RESONATORMECHANISMUS MIT FLEXIBLER DREHFÜHRUNG

Title (fr)
PROTECTION ANTICHOC D'UN MECANISME RÉSONATEUR A GUIDAGE FLEXIBLE ROTATIF

Publication
EP 3561609 A1 20191030 (FR)

Application
EP 18168765 A 20180423

Priority
EP 18168765 A 20180423

Abstract (en)
[origin: US2019324401A1] A timepiece resonator mechanism including a structure carrying, via a flexible suspension system, an anchor unit to which is suspended an inertia element oscillating with a first rotational degree of freedom RZ, under the action of return forces exerted by a flexure pivot including first elastic strips each fixed to the inertia element and to the anchor unit, the flexible suspension system being arranged to allow the anchor unit some mobility in every degree of freedom except the first rotational degree of freedom RZ wherein only the inertia element can move to avoid any disturbance to its oscillation, and the stiffness of the suspension system in the first rotational degree of freedom RZ is very considerably higher than the stiffness of the flexure pivot in this same rotational degree of freedom RZ.

Abstract (fr)
Mécanisme résonateur (100) d'horlogerie, comportant une structure (1) portant, par une suspension flexible (300), un bloc d'ancrage (30) auquel est suspendu un élément inertiel (2) oscillant selon un premier degré de liberté en rotation RZ, sous l'action d'efforts de rappel exercés par un pivot flexible (200) comportant des premières lames élastiques (3) chacune fixée audit élément inertiel (2) et audit bloc d'ancrage (30), la suspension flexible (300) étant agencé pour autoriser une certaine mobilité du bloc d'ancrage (30) selon tous les degrés de liberté autres que le premier degré de liberté en rotation RZ selon lequel seul est mobile l'élément inertiel (2) pour éviter toute perturbation de son oscillation, et la rigidité de la suspension (300) selon le premier degré de liberté en rotation RZ est très fortement supérieure à la rigidité du pivot flexible (200) selon ce même premier degré de liberté en rotation RZ.

IPC 8 full level
G04B 43/00 (2006.01); **G04B 17/04** (2006.01)

CPC (source: CH CN EP US)
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G04B 31/00 (2013.01 - EP); **G04B 31/02** (2013.01 - EP US); **G04B 43/002** (2013.01 - CH EP); **G04C 3/04** (2013.01 - US)

Citation (applicant)
• EP 3054357 A1 20160810 - ETA SA MFT HORLOGERE SUISSE [CH]
• EP 3035127 A1 20160622 - SWATCH GROUP RES & DEV LTD [CH]
• CH 15442016 A 20161123
• CH 15112016 A 20161116
• CH 1112016 A 20160129
• CH 19792014 A 20141218
• CH 9802017 A 20170728

Citation (search report)
• [AD] EP 3035127 A1 20160622 - SWATCH GROUP RES & DEV LTD [CH]
• [AD] EP 3054357 A1 20160810 - ETA SA MFT HORLOGERE SUISSE [CH]

Cited by
EP3971655A1; CN114721243A; WO2020016131A1; EP4343450A1; EP4141580A1; EP3561607A1; EP3971656A1; EP4191346A1

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