

Title (en)

SHOCK PROTECTION PROVIDED WITH A VISCOUS ELEMENT FOR A RESONATOR MECHANISM WITH FLEXIBLE PIVOT

Title (de)

MIT EINEM VISKOSEN ELEMENT AUSGESTATTETER STOSSDÄMPFUNGSSCHUTZ FÜR EINEN RESONATORMECHANISMUS MIT FLEXIBLER DREHFÜHRUNG

Title (fr)

PROTECTION ANTICHOC MUNIE D'UN ÉLÉMENT VISQUEUX POUR UN MÉCANISME RÉSONATEUR À GUIDAGE FLEXIBLE ROTATIF

Publication

**EP 3971656 A1 20220323 (FR)**

Application

**EP 20214330 A 20201215**

Priority

EP 20196863 A 20200918

Abstract (en)

[origin: CN114200811A] Shock protection with a stop for a resonator mechanism having a rotationally flexible guide. The invention relates to a timepiece resonator mechanism in which a flexible suspension device is arranged to allow mobility of an anchoring unit in a plurality of degrees of freedom, including at least two degrees of freedom in a plane XY in a direction X and in a direction Y orthogonal to said direction X, the flexible suspension device comprises a transverse translation stage with a flexible guide between the anchoring unit and a first intermediate mass, the first intermediate mass being fixed directly to the structure or by means of a plate which is flexible in said first direction Z, the transverse translation stage comprises a straight transverse belt or transverse flexible rod and extends in the second direction X. The resonator mechanism comprises stop means arranged to limit the rotation and/or translation stroke of the flexible suspension means in at least one direction.

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 autour d'un axe de pivotement (D) s'étendant selon une première direction Z, selon un premier degré de liberté en rotation RZ, sous l'action des efforts de rappel d'un pivot flexible (200) comportant des lames longitudinales élastiques (3) chacune fixée audit élément inertiel (2) et audit bloc d'ancrage (30), le mécanisme résonateur comportant un élément comportant une substance visqueuse (10) agencé au moins en partie autour de la suspension flexible (300), cet élément étant configuré pour dissiper au moins en partie l'énergie due à un choc.

IPC 8 full level

**G04B 17/04** (2006.01); **G04B 31/02** (2006.01)

CPC (source: CN EP KR US)

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Citation (applicant)

- CH 15442016 A 20161123
- CH 5182018 A 20180423
- EP 18168765 A 20180423
- CH 715526 A2 20200515 - ETA SA MFT HORLOGERE SUISSE [CH]
- EP 3561607 A1 20191030 - ETA SA MFT HORLOGERE SUISSE [CH]

Citation (search report)

- [YDA] CH 715526 A2 20200515 - ETA SA MFT HORLOGERE SUISSE [CH]
- [Y] EP 3719587 A1 20201007 - CSEM CT SUISSE DELECTRONIQUE MICROTECHNIQUE SA RECH DEVELOPPEMENT [CH]

Designated contracting state (EPC)

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DOCDB simple family (application)

**EP 20214330 A 20201215**; CN 202111093361 A 20210917; CN 202111533429 A 20211215; EP 20196863 A 20200918; JP 2021149150 A 20210914; JP 2021196660 A 20211203; KR 20210123415 A 20210915; US 202117474430 A 20210914; US 202117526700 A 20211115