

Title (en)
MECHANICAL TIMEPIECE REGULATOR

Title (de)
MECHANISCHE UHR-REGULIERUNGSVORRICHTUNG

Title (fr)
REGULATEUR HORLOGER MECANIQUE

Publication
EP 3686693 A1 20200729 (FR)

Application
EP 20000034 A 20200122

Priority
CH 782019 A 20190124

Abstract (en)
[origin: US2020241476A1] The mechanical timepiece regulator of the invention comprises a flexure bearing oscillator and a double detent escapement, the oscillator comprising a balance wheel (1) connected to an elastic suspension (2a, 2b) arranged to guide and apply a restoring force to the balance wheel (1) in a plane of oscillation. The escapement comprises an escape wheel (3) and an anchor (4) integrated into the balance wheel (1) and having two arms (5, 6) arranged to receive alternately the impulses of the escape wheel (3). The escapement furthermore comprises two detents (7, 8) alternately locking the escape wheel (3) between two impulses and interacting with the arms (5, 6) of the anchor to release the escape wheel (3) before each impulse, without direct interaction between the anchor and the escape wheel.

Abstract (fr)
Le régulateur mécanique horloger de l'invention comporte un oscillateur à guidage flexible et un échappement à double détente, l'oscillateur comportant un balancier (1) lié à une suspension élastique (2a, 2b) agencée pour guider et rappeler le balancier (1) dans un plan d'oscillation. L'échappement comporte une roue d'échappement (3), et une ancre (4) intégrée au balancier (1) et ayant deux bras (5, 6) agencées pour recevoir alternativement des impulsions de la roue d'échappement (3).

IPC 8 full level
G04B 17/04 (2006.01); **G04B 15/06** (2006.01)

CPC (source: CH CN EP US)
G04B 15/00 (2013.01 - CN); **G04B 15/06** (2013.01 - EP); **G04B 15/08** (2013.01 - CH); **G04B 15/12** (2013.01 - CN);
G04B 15/14 (2013.01 - CH CN); **G04B 17/045** (2013.01 - CH EP); **G04B 17/063** (2013.01 - US); **G04B 17/10** (2013.01 - CN);
G04B 17/32 (2013.01 - US)

Citation (applicant)
• CH 709291 A2 20150828 - SUISSE ELECTRONIQUE MICROTECH [CH]
• EP 1736838 A1 20061227 - SUISSE ELECTRONIQUE MICROTECH [CH]
• EP 3182213 A1 20170621 - SOCIÉTÉ ANONYME DE LA MFT D'HORLOGERIE AUDEMARS PIGUET & CIE [CH]
• WO 2017068538 A1 20170427 - RICHEMONT INT SA [CH]
• WO 2018100122 A1 20180607 - LVMH SWISS MFT SA [CH]
• EP 3059641 A1 20160824 - NIVAROX SA [CH]
• EP 2911012 A1 20150826 - SUISSE ELECTRONIQUE MICROTECH [CH]

Citation (search report)
• [A] CH 711571 A2 20170331 - NIVAROX FAR SA [CH]
• [A] CH 712084 B1 20170731 - PATEK PHILIPPE SA GENEVE [CH]
• [AD] EP 3059641 A1 20160824 - NIVAROX SA [CH]

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)
CH 714992 A1 20191115; CH 714992 A9 20200115; CN 111474843 A 20200731; CN 111474843 B 20221202; EP 3686693 A1 20200729; EP 3686693 B1 20220309; US 11650544 B2 20230516; US 2020241476 A1 20200730

DOCDB simple family (application)
CH 782019 A 20190124; CN 202010074059 A 20200122; EP 20000034 A 20200122; US 202016751212 A 20200124