Title (en)

DEVICE AND METHOD FOR ADJUSTING THE RATE OF A WATCH

Title (de)

VORRICHTUNG UND VERFAHREN ZUM REGULIEREN DER GANGGENAUIGKEIT EINER ARMBANDUHR

Title (fr)

DISPOSITIF ET PROCEDE D'AJUSTEMENT DE MARCHE D'UNE MONTRE

Publication

**EP 3410235 A1 20181205 (FR)**

Application

**EP 17173301 A 20170529**

Priority

- EP 17173301 A 20170529
- CH 6982017 A 20170529

Abstract (en)

[origin: US2018341226A1] A method for adjusting the rate of a watch with an oscillator arranged to generate oscillation at a nominal frequency N0, with a servo-system including a master oscillator arranged to generate excitation oscillation at an excitation frequency NE, which is approximately equal to, or equal to the nominal frequency N0, or to an integer multiple of this nominal frequency N0, the watch is subjected to excitation oscillation or to a modulated motion, generated by the master oscillator, during a transition phase after which the oscillator of the watch is stabilised at excitation frequency NE, and there is incorporated in the servo-system a winder for mechanical or automatic watches, arranged to move a support on which such a watch is fixed.

Abstract (fr)

Procédé d'ajustement de marche d'une montre à oscillateur agencé pour générer une oscillation à une fréquence nominale (N0), avec un dispositif d'asservissement comportant un oscillateur maître agencé pour générer une oscillation d'excitation à une fréquence d'excitation (NE) constituant une référence, qui est égale à ladite fréquence nominale (N0), ou à un multiple entier de ladite fréquence nominale (N0), on soumet la montre à une oscillation d'excitation ou un mouvement modulé, généré par cet oscillateur maître, pendant une phase de transition après laquelle l'oscillateur de la montre est stabilisé à fréquence d'excitation (NE)..

IPC 8 full level

**G04D 7/12** (2006.01)

CPC (source: CH CN EP US)

**G04B 18/006** (2013.01 - CN); **G04B 18/02** (2013.01 - CN); **G04B 18/021** (2013.01 - EP US); **G04C 13/028** (2013.01 - CN); **G04D 1/063** (2013.01 - CH); **G04D 7/084** (2013.01 - CN); **G04D 7/087** (2013.01 - CN); **G04D 7/1264** (2013.01 - CH CN EP US); **G04D 7/1278** (2013.01 - EP US)

Citation (search report)

- [A] GB 187814 A 19221102 - WILLIAM HAMILTON SHORTT
- [A] JP S5567685 A 19800521 - SEIKO INSTR & ELECTRONICS
- [A] DE 102013012854 B3 20140522 - GODER REINHARD [DE]
- [XA] HENRIQUE M. OLIVEIRA ET AL: "Huygens synchronization of two clocks", SCIENTIFIC REPORTS, vol. 5, no. 1, 23 July 2015 (2015-07-23), XP055418276, DOI: 10.1038/srep11548
- [A] WALLMAN H: "HIT-OR-MISS SYNCHRONISATION TO ATOMIC TIME", HOROLOGICAL JOURNAL, HOROLOGICAL JOURNAL. ASHFORD, GB, vol. 134, no. 1, 1 July 1991 (1991-07-01), pages 26 - 27, XP000214989, ISSN: 0018-5108
- [A] JONATAN PEÑA RAMIREZ ET AL: "The sympathy of two pendulum clocks: beyond Huygens' observations", SCIENTIFIC REPORTS, vol. 6, no. 1, 29 March 2016 (2016-03-29), XP055418277, DOI: 10.1038/srep23580

Cited by

EP3537234A1; EP3719589A1; US11669047B2; WO2019224212A1; EP3835889A1; EP4357859A1; EP3572887A1; EP3985446B1

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)

**US 10948879 B2 20210316**; **US 2018341226 A1 20181129**; CH 713821 A2 20181130; CN 108983581 A 20181211; CN 108983581 B 20201110; EP 3410235 A1 20181205; EP 3410235 B1 20200422; JP 2018200308 A 20181220; JP 6514393 B2 20190515

DOCDB simple family (application)

**US 201815957949 A 20180420**; CH 6982017 A 20170529; CN 201810520724 A 20180528; EP 17173301 A 20170529; JP 2018092843 A 20180514