

Title (en)  
Method for maintaining and adjusting a clock piece resonator

Title (de)  
Wartungs- und Regulierungsverfahren eines Uhrenresonators

Title (fr)  
Procédé d'entretien et de régulation d'un résonateur d'horlogerie

Publication  
**EP 2908184 B1 20171018 (FR)**

Application  
**EP 14155425 A 20140217**

Priority  
EP 14155425 A 20140217

Abstract (en)  
[origin: WO2015121014A1] Method for servicing and regulating the frequency of an horology resonator mechanism (1) about its natural frequency ( $\omega_0$ ), characterized in that use is made of at least one regulator device (2) acting on said resonator mechanism (1) with a periodic movement. Said periodic movement imposes a periodic modulation of the resonant frequency and/or of the Q factor/or of the position of the quiescent point of said resonator mechanism (1), with a regulating frequency ( $\omega_R$ ) that is comprised between 0.9 and 1.1 times the value of an integer multiple of said natural frequency ( $\omega_0$ ), said integer being greater than or equal to 2 and less than or equal to 10. Said periodic movement imposes a periodic modulation of the Q factor of said resonator mechanism (1) by acting on the losses and/or the damping and/or the friction of said resonator mechanism (1).

IPC 8 full level  
**G04B 17/26** (2006.01)

CPC (source: EP RU US)  
**G04B 17/04** (2013.01 - US); **G04B 17/045** (2013.01 - EP US); **G04B 17/06** (2013.01 - US); **G04B 17/063** (2013.01 - US);  
**G04B 17/066** (2013.01 - US); **G04B 17/26** (2013.01 - EP RU US); **G04B 17/32** (2013.01 - US); **G04B 17/325** (2013.01 - EP US)

Cited by  
CH713286A1; EP3312683A1; RU2749944C2; EP3627242A1; US10241473B2

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

DOCDB simple family (publication)  
**EP 2908184 A1 20150819; EP 2908184 B1 20171018**; CH 709281 A2 20150828; CN 105659168 A 20160608; CN 105659168 B 20180406;  
EP 3108305 A1 20161228; EP 3108305 B1 20180314; JP 2016536578 A 20161124; JP 6166843 B2 20170719; RU 2663089 C1 20180801;  
US 10241473 B2 20190326; US 10324416 B2 20190618; US 2016216693 A1 20160728; US 2017277124 A1 20170928;  
WO 2015121014 A1 20150820

DOCDB simple family (application)  
**EP 14155425 A 20140217**; CH 2052014 A 20140217; CN 201580002223 A 20150114; EP 15700569 A 20150114; EP 2015050588 W 20150114;  
JP 2016519844 A 20150114; RU 2016133725 A 20150114; US 201514917780 A 20150114; US 201715620050 A 20170612