

Title (en)
METHOD OF MANUFACTURING OF A THERMOCOMPENSATED HAIRSPRING

Title (de)
HERSTELLUNGSVERFAHREN EINES THERMOKOMPENSIERTEN SPIRALFEDERS

Title (fr)
PROCÉDÉ DE FABRICATION D'UN RESSORT SPIRAL THERMOCOMPENSÉ

Publication
EP 3958066 B1 20240724 (FR)

Application
EP 21194853 A 20150127

Priority

- EP 15701046 A 20150127
- EP 2015051618 W 20150127
- CH 1192014 A 20140129

Abstract (en)
[origin: WO2015113973A1] The invention concerns a hairspring (1) intended to equip a balance-hairspring resonator of a movement of a timepiece or another precision instrument, the hairspring (1) comprising a core (2) made from a ceramic material comprising silicon in the core of same and comprising a cross-section, the core (2) having a first stiffness (k A) and a first thermoelastic coefficient (β A); and a coating (4) made from silicon dioxide of thickness (t R) and at least partially covering the core (2), the coating (4) having a second thickness (k R) and a second thermoelastic coefficient (β R) of opposite sign to the first thermoelastic coefficient (β A); in which the cross-section of the core (2) and the thickness (t R) of the coating (4) can be adjusted separately in such a way as to obtain a desired value for the thermoelastic coefficient of the hairspring (β $\langle S \rangle$) and a thickness of the hairspring (k S). The invention also concerns a balance-hairspring resonator comprising the hairspring and a balance wheel and a method for adjusting the hairspring. The hairspring has invariant expansion and elasticity properties.

IPC 8 full level
G04B 17/22 (2006.01); **G04B 17/06** (2006.01)

CPC (source: EP)
G04B 17/066 (2013.01); **G04B 17/22** (2013.01)

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)
WO 2015113973 A1 20150806; CN 106104393 A 20161109; EP 3100120 A1 20161207; EP 3958066 A1 20220223; EP 3958066 B1 20240724

DOCDB simple family (application)
EP 2015051618 W 20150127; CN 201580006293 A 20150127; EP 15701046 A 20150127; EP 21194853 A 20150127