

Title (en)
Anti-tripping hairspring for timepiece escapement

Title (de)
Antischwingungsspirale für Uhrenhemmungen

Title (fr)
Spiral anti-galop pour échappement d'horlogerie

Publication
EP 2434353 B1 20180110 (FR)

Application
EP 10181111 A 20100928

Priority
EP 10181111 A 20100928

Abstract (en)
[origin: EP2434353A1] The anti-tripping hairspring (1) has a blocking unit for blocking multiple turns (13), when rotation amplitude of the hairspring from balancing position to an extreme position attains determined angle. The unit has transversal segments (15) integrated to the turns, where the transversal segments are radial. The transversal segments are extended beyond two portions of a spiral (14), where the hairspring is made of silicon and metal. An independent claim is also included for a detect escapement of a timepiece comprising a tilting unit.

IPC 8 full level
G04B 17/06 (2006.01); **G04B 17/26** (2006.01)

CPC (source: EP US)
G04B 17/066 (2013.01 - EP US); **G04B 17/26** (2013.01 - EP US); **Y10T 29/49609** (2015.01 - US)

Citation (examination)
US 3696687 A 19721010 - HARLAND PHILIP W

Cited by
US9645549B2; EP2690508A1; EP2690506A1; EP2884347A1; US2016299470A1; CN103576528A; RU2615595C2; US9016934B2; WO2015090815A3; EP2690507A1; WO2014016094A1; US8821007B2; EP2908187A1; US9354607B2

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 SE SI SK SM TR

DOCDB simple family (publication)
EP 2434353 A1 20120328; EP 2434353 B1 20180110; CN 102419541 A 20120418; CN 102419541 B 20130731; HK 1169494 A1 20130125; JP 2012073248 A 20120412; JP 5372092 B2 20131218; US 2012075963 A1 20120329; US 8764281 B2 20140701

DOCDB simple family (application)
EP 10181111 A 20100928; CN 201110295066 A 20110927; HK 12110164 A 20121015; JP 2011204173 A 20110920; US 201113246148 A 20110927