

Title (en)
Mainspring for a clock piece

Title (de)
Triebfeder für Uhr

Title (fr)
Ressort-moteur pour une pièce d'horlogerie

Publication
EP 2680090 A1 20140101 (FR)

Application
EP 13169865 A 20130530

Priority
• EP 12174134 A 20120628
• EP 13169865 A 20130530

Abstract (en)
The mainspring (1) has a metal strip (3) made of austenitic steel to limit sensitivity to magnetic fields. The outer surface of strip is hardened compared to the rest of strip to predetermined depth to harden the strip in main areas of stress and maintain the modulus of elasticity of austenitic steel. The predetermined depth represents between 5 percent and 40 percent of the total thickness of strip. The hardened outer surface includes diffused atoms of at least one non-metal such as nitrogen and/or carbon. An independent claim is included for a method of fabricating a mainspring.

Abstract (fr)
L'invention se rapporte à un ressort-moteur (1) comportant une lame (3) en métal. Selon l'invention, le métal est de l'acier (5) du type austénitique afin de limiter sa sensibilité aux champs magnétiques et au moins la surface externe de la lame (3) est durcie par rapport au reste de la lame selon une profondeur prédéterminée (7) afin de durcir la lame (3) au niveau des zones de contrainte principales tout en gardant un bas module élastique. L'invention concerne le domaine des barillets d'horlogerie.

IPC 8 full level
G04B 1/14 (2006.01)

CPC (source: EP RU US)
G04B 1/145 (2013.01 - EP US); **G04B 1/14** (2013.01 - RU); **Y10T 29/49609** (2015.01 - EP US)

Citation (search report)
• [Y] US 2002191493 A1 20021219 - HARA TATSUO [JP]
• [Y] CH 323662 A 19570815 - STRAUMANN REINHARD DR [CH]

Cited by
EP3002635A1; EP3273303A1; US11131965B2; EP3208664A1; EP3273305A1

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)
EP 2680090 A1 20140101; CN 103529682 A 20140122; CN 109884870 A 20190614; JP 2014010155 A 20140120; JP 5766751 B2 20150819; RU 2013129529 A 20150110; RU 2634790 C2 20171103; US 2014003203 A1 20140102

DOCDB simple family (application)
EP 13169865 A 20130530; CN 201310268211 A 20130628; CN 201910222505 A 20130628; JP 2013135894 A 20130628; RU 2013129529 A 20130627; US 201313924855 A 20130624