

Title (en)
METHOD FOR MANUFACTURING A SILICON HAIRSPRING

Title (de)
VERFAHREN ZUR HERSTELLUNG EINER SILIZIUMFEDER

Title (fr)
PROCEDE DE FABRICATION D'UN SPIRAL EN SILICIUM

Publication
EP 3543796 A1 20190925 (FR)

Application
EP 18163053 A 20180321

Priority
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Abstract (en)
[origin: WO2019180177A1] The invention relates to a method for manufacturing a hairspring with a final stiffness, comprising the steps of manufacturing a hairspring with an excess thickness, determining the initial stiffness of the hairspring produced, in order to remove the volume of material to obtain the hairspring with the dimensions required for said final stiffness.

Abstract (fr)
L'invention se rapporte à un procédé de fabrication d'un spiral d'une raideur finale comportant les étapes de fabrication d'un spiral selon des dimensions surépaissies, de détermination de la raideur initiale du spiral formé afin de retirer le volume de matériau pour obtenir le spiral aux dimensions nécessaires à ladite raideur finale.

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

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G04B 17/066 (2013.01 - EP KR US); **G04B 17/227** (2013.01 - EP KR US); **G04B 17/26** (2013.01 - KR US); **G04B 17/26** (2013.01 - EP)

Citation (applicant)
• EP 1422436 A1 20040526 - CSEMCT SUISSE D ELECTRONIQUE E [CH]
• EP 2423764 A1 20120229 - ROLEX SA [CH]
• EP 2920653 A1 20150923 - NIVAROX SA [CH]

Citation (search report)
• [Y] EP 3181938 A1 20170621 - CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECH ET DÉVELOPPEMENT [CH]
• [Y] CH 711962 A2 20170630 - CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA – RECH ET DÉVELOPPEMENT [CH]
• [Y] EP 3232277 A1 20171018 - CITIZEN WATCH CO LTD [JP]
• [Y] CH 711248 A2 20161230 - NIVAROX FAR SA [CH]

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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)
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DOCDB simple family (publication)
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EP 18163053 A 20180321; CN 201980017845 A 20190321; EP 19712197 A 20190321; EP 2019057160 W 20190321; JP 2020549548 A 20190321; KR 20207026526 A 20190321; US 201916982418 A 20190321