

Title (en)  
HAIRSPRING FOR CLOCK MOVEMENT AND METHOD FOR MANUFACTURING SAME

Title (de)  
SPIRALFEDER FÜR UHRWERK UND IHR HERSTELLUNGSVERFAHREN

Title (fr)  
RESSORT SPIRAL POUR MOUVEMENT D'HORLOGERIE ET SON PROCEDE DE FABRICATION

Publication  
**EP 4009114 A1 20220608 (FR)**

Application  
**EP 21218349 A 20191231**

Priority  
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• EP 19220163 A 20191231

Abstract (en)  
[origin: US2021200153A1] A balance-spring intended to equip a balance of an horological movement, comprising a core made of Nb—Ti made from an alloy consisting of: niobium: balance to 100% by weight, titanium: between 5 and 95% by weight, traces of elements chosen from the group consisting of O, H, C, Fe, Ta, N, Ni, Si, Cu, Al, each of said elements being present in a quantity between 0 and 1600 ppm by weight, the total quantity formed by all of said elements being between 0% and 0.3% by weight, wherein the core made of Nb—Ti is coated with a layer of niobium, said layer of niobium having a thickness between 20 nm and 10 µm.

Abstract (fr)  
La présente invention concerne notamment un ressort spiral destiné à équiper un balancier d'un mouvement d'horlogerie, comprenant une âme en Nb-Ti réalisée dans un alliage constitué de :- niobium : balance à 100% en poids,- titane : entre 5 et 95% en poids,- traces d'éléments sélectionnés parmi le groupe constitué de O, H, C, Fe, Ta, N, Ni, Si, Cu, Al, chacun desdits éléments étant présent dans une quantité comprise entre 0 et 1600 ppm en poids, la quantité totale constituée par l'ensemble desdits éléments étant comprise entre 0% et 0.3% en poids,dans lequel l'âme en Nb-Ti est enrobée d'une couche de niobium, ladite couche de niobium ayant une épaisseur comprise entre 20 nm et 10 µm.

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Citation (search report)  
• [A] EP 3502288 A1 20190626 - NIVAROX SA [CH]  
• [A] WO 2018172164 A1 20180927 - UNIV DE LORRAINE [FR]  
• [A] EP 1039352 A1 20000927 - ROLEX MONTRES [CH]  
• [A] TW I615690 B 20180221 - NIVAROX SA [CH]

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