

Title (en)
APPARATUS FOR MELTING METAL BY ELECTRON BEAMS AND PROCESS FOR PRODUCING HIGH-MELTING METAL INGOT USING THIS APPARATUS

Title (de)
VORRICHTUNG ZUM SCHMELZEN VON METALL MITTELS ELEKTRONENSTRAHLEN UND VERFAHREN ZUR HERSTELLUNG HOCHSCHMELZENDER METALLGUSSBLÖCKE MIT DIESER VORRICHTUNG

Title (fr)
APPAREIL DE FUSION DE METAL PAR FAISCEAUX ELECTRONIQUES ET PROCEDE DE FABRICATION D UN LINGOT METALLIQUE A POINT DE FUSION ELEVE AVEC CET APPAREIL

Publication
EP 1845325 A4 20081224 (EN)

Application
EP 06712160 A 20060123

Priority

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- JP 2005016396 A 20050125
- JP 2005363412 A 20051216

Abstract (en)
[origin: EP1845325A1] The present invention provides an electron-beam furnace and a melting method that, in producing an ingot by melting a metal with an electron beam, can suppress the contamination of new impurities in the ingot production, are less likely to again result in inclusion of once evaporated impurities from a molten metal pool within a hearth or a mold, and can be improved in utilization rate. The electron-beam furnace for melting a refractory metal includes a feeder unit for raw materials, a melting unit for raw materials, which is connected to the feeder unit for raw materials and, at the same time, is defined by a furnace wall and a ceiling wall, and includes at least a hearth, a water-cooled mold, and an electron gun, and an evacuation unit for exhaust gas connected to the melting unit for raw materials. In this electron beam furnace, at least one of the furnace wall and the ceiling wall is lined with titanium or stainless steel, and in addition, plural fin-shaped members formed of titanium or stainless steel are provided at the ceiling wall. A lining, which can be attached and detached, is provided on the inner face of the electron beam furnace.

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Citation (search report)

- [DA] JP H1161288 A 19990305 - NIKKO KINZOKU KK
- [A] US 3265801 A 19660809 - FRANK EATON NORMAN
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- See references of WO 2006080269A1

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