

Title (en)  
ELECTROLYTIC CELL FOR PRODUCTION OF RARE EARTH METALS

Title (de)  
ELEKTROLYSEZELLE ZUR HERSTELLUNG VON SELTENERDMETALLEN

Title (fr)  
CELLULE ÉLECTROLYTIQUE POUR LA PRODUCTION DE MÉTAUX DES TERRES RARES

Publication  
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Application  
**EP 13790439 A 20130515**

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• AU 2013000500 W 20130515

Abstract (en)  
[origin: WO2013170299A1] An electrolytic cell for production of rare earth metals is disclosed. The electrolytic cell includes a cell housing provided with one or more inclined channels disposed in a floor of the cell housing along which channel(s) molten rare earth metals produced in the electrolytic cell can drain. One or more cathodes are suspended within the cell housing in substantially vertical alignment with the one or more channels. Respective opposing surfaces of the one or more cathodes are downwardly and outwardly inclined at an angle from the vertical. One or more pairs of anodes are suspended within the cell housing; each anode in the one or more pairs has a facing surface inclined from the vertical and spaced apart in parallel alignment with respective opposing inclined surfaces of the one or more cathodes to define a substantially constant anode-cathode distance therebetween. The electrolytic cell also includes a sump for receiving molten rare earth metals from the channel, wherein the sump is spaced apart and isolated from the one or more cathodes and the one or more anodes. Separation of the molten rare earth metals from the cathode(s) and the anode(s) prevents reaction and/or contamination with fugitive carbon arising from the anode(s) or back reaction with off gases.

IPC 8 full level  
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CPC (source: EP RU US)  
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Citation (search report)  
• [Y] US 4684448 A 19870804 - ITOH KATSUHISA [JP], et al  
• [Y] US 3909375 A 19750930 - HOLLIDAY ROBIN DAVID, et al  
• [A] US 4622111 A 19861111 - BROWN MELVIN H [US], et al  
• See references of WO 2013170299A1

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