

Title (en)
METHOD AND DEVICES FOR REGULATING THE FLOW RATE AND FOR SLOWING DOWN MELT STREAMS THROUGH MAGNETIC FIELDS IN THE TAPPING OF METALLURGICAL CONTAINERS SUCH AS BLAST FURNACES AND MELT FURNACES

Title (de)
VERFAHREN UND VORRICHTUNGEN ZUR REGELUNG DER STRÖMUNGSGESCHWINDIGKEIT UND ZUM ABBREMSEN VON SCHMELZESTRÖMEN DURCH MAGNETFELDER BEIM ABSTICH VON METALLURGISCHEN BEHÄLTERN WIE HOCHÖFEN UND SCHMELZÖFEN

Title (fr)
PROCÉDÉ ET DISPOSITIFS POUR LA RÉGULATION DE LA VITESSE D'ÉCOULEMENT ET POUR LE RALENTISSEMENT DE FLUX DE MATIÈRE EN FUSION PAR DES CHAMPS MAGNÉTIQUES LORS DU PIQUAGE DE CONTENANTS MÉTALLURGIQUES TELS QUE HAUTS-FOURNEAUX ET FOURS DE FUSION

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Abstract (en)
[origin: WO2010015684A1] The invention relates to a method for regulating the flow rate and for slowing down melt streams through magnetic fields in the tapping of metallurgical containers such as blast furnaces and melt furnaces. The method is characterized in that the melt stream is routed in a closed routing element using at least two magnetic fields disposed in series one after the other in the flow direction of the melt, said magnetic fields having a constant polarity opposite to one another, in such a way that the magnetic field lines transversally penetrate the melt flow across the entire cross section thereof and such that opposite voltages are induced in the melt stream by the magnetic fields, there being at least three eddy current fields produced thereby in the melt stream that are disposed axially one after the other, and that due to the interactions between the magnetic fields and the eddy currents forces are generated that can be used to reduce the flow rate of the melt stream.

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