

Title (en)

A FERRO-ALLOY INSERTING APPARATUS WITH REDUCED ABSORPTION OF OXYGEN AND ABSORPTION OF NITROGEN AND INSERTING METHOD THEREOF

Title (de)

EISENLEGIERUNGSINSERTIERUNGSVORRICHTUNG MIT VERRINGERTER ABSORPTION VON SAUERSTOFF UND ABSORPTION VON STICKSTOFF UND INSERTIERUNGSVERFAHREN DAFÜR

Title (fr)

APPAREIL ET PROCÉDÉ D'INSERTION D'UN FERRO-ALLIAGE À ABSORPTION RÉDUITE D'OXYGÈNE ET D'HYDROGÈNE

Publication

EP 2054533 A1 20090506 (EN)

Application

EP 06824112 A 20061212

Priority

- KR 2006005406 W 20061212
- KR 20060079692 A 20060823
- KR 20060079693 A 20060823

Abstract (en)

[origin: WO2008023863A1] The present invention relates to an apparatus for inserting ferro-alloy and inserting method without submerging into slag and liquid steel for reducing absorption of oxygen and absorption of nitrogen capable of inserting ferro-alloy by minimizing an incorporation of oxygen and nitrogen in a ladle treatment process of a steelmaking process upon performing a steelmaking operation, comprising: a supplying tube supplied with ferro-alloy from a hopper to insert it to a ladle and subdivided into an upper part, an inclined middle part, a lower part and having a predetermined hollow; a branched and mounted inert gas blocking unit communicated with the middle of the supplying unit and blocking, as first inert gas, air flowed in at the same time when the ferro-alloy is inserted; a branched and mounted inert gas supplying unit communicated with the base end part of the lower part of the supplying tube and blowing a second inert gas on an inserting path of the ferro-alloy; an inert gas injecting unit packing any one of the lower outer sides of the supplying unit relative to axis direction of the lower thereof and injecting a third inert gas toward the end part of the lower part thereof; and a diffusing unit diffusing the third inert gas injected while packing the supplying tube from the gas injecting unit into the end part of the supplying tube.

IPC 8 full level

C21C 7/00 (2006.01); **F27D 3/16** (2006.01); **F27D 3/18** (2006.01)

CPC (source: EP)

C21C 7/0006 (2013.01); **C21C 7/0037** (2013.01); **C21C 7/0075** (2013.01); **F27D 3/16** (2013.01); **F27D 3/18** (2013.01); **C21C 5/5264** (2013.01); **C21C 2300/06** (2013.01); **Y02P 10/20** (2015.11); **Y02P 10/25** (2015.11)

Designated contracting state (EPC)

DE FR SE

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

WO 2008023863 A1 20080228; EP 2054533 A1 20090506; EP 2054533 A4 20091230; JP 2010501726 A 20100121; JP 5079005 B2 20121121

DOCDB simple family (application)

KR 2006005406 W 20061212; EP 06824112 A 20061212; JP 2009525475 A 20061212