

Title (en)
WATER-COOLED LANCE FOR BLOWING OXYGEN ONTO A METAL BATH

Publication
EP 0195897 B1 19891004 (DE)

Application
EP 86101134 A 19860129

Priority
DE 3509795 A 19850319

Abstract (en)
[origin: US4702462A] A water-cooled lance for blowing oxygen or oxygen containing gas onto a metal melt, for example an iron melt, for afterburning reaction gases from the melt and transferring the heat of afterburning back to the melt comprises a center tube forming a gas supply duct surrounded by further tubes for cooling water. The center tube leads to a head having a plurality of oxygen-blowing nozzles. Each of the nozzles has a plurality of oxygen outlet openings. The outlet openings have their centers lying on two concentric circles and are arranged so that each opening produces an individual gas stream. The axes of the outlet openings are inclined to the longitudinal axis of the lance at angles such that, in a plane perpendicular to the longitudinal axis of the lance and at a distance Lh from the head, the gas streams extend over an annular area in the plane having an inside diameter Di and outside diameter Da. Lh, Di and Da have the following relationships: Di:Lh is the range of from 0.15 to 0.6; and, Da:Lh is the range of from 0.6 to 1.2.

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C21C 5/46

IPC 8 full level
C21C 5/30 (2006.01); **C21C 5/46** (2006.01); **C22B 9/05** (2006.01); **F27D 3/16** (2006.01)

CPC (source: EP US)
C21C 5/4606 (2013.01 - EP US); **C22B 9/05** (2013.01 - EP US); **F27D 3/16** (2013.01 - EP US); **C21C 5/305** (2013.01 - EP US)

Cited by
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US 4702462 A 19871027; AT E46923 T1 19891015; AU 5385686 A 19860925; AU 571125 B2 19880331; DE 3509795 C1 19860605; DE 3666050 D1 19891109; EP 0195897 A2 19861001; EP 0195897 A3 19870527; EP 0195897 B1 19891004; JP S61213312 A 19860922; JP S6311405 B2 19880314

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