

Title (en)

PROCESS AND APPARATUS FOR MAKING SPONGE IRON, ESPECIALLY PIG IRON

Publication

**EP 0179734 B1 19891213 (DE)**

Application

**EP 85730134 A 19850930**

Priority

DE 3437913 A 19841012

Abstract (en)

[origin: US4854967A] A process for producing sponge iron from iron ore is described, which is reduced to sponge iron in a reduction shaft furnace by means of a hot reduction gas. For this purpose reduction gas at a temperature in the range 750 to 900 DEG C. is introduced into shaft furnace (1) level with bustle plane (5) having been produced in a gasifier (2) then cooled and purified in a cyclone separator (12). Reduction gas is introduced below the bustle plane (5) at a temperature below that of the reduction gas introduced in the bustle plane and is preferably introduced into the shaft furnace (1) between 650 DEG and 750 DEG C. Increased carburization of the sponge iron is obtained. Increased carbon separation also results through a volume increase, particularly by increasing the cross-section through the lower part of the shaft furnace. Carburization is also assisted in that the ratio of the reduction gas quantity supplied below the bustle plane is made as large as possible compared with the reduction gas quantity supplied in the bustle plane.

IPC 1-7

**C21B 11/00**; **C21B 13/02**; **C21B 13/14**

IPC 8 full level

**C21B 11/02** (2006.01); **C21B 11/00** (2006.01); **C21B 13/00** (2006.01); **C21B 13/02** (2006.01); **C21B 13/14** (2006.01)

CPC (source: EP KR US)

**C21B 11/00** (2013.01 - EP US); **C21B 13/002** (2013.01 - EP US); **C21B 13/02** (2013.01 - EP KR US); **C21B 13/029** (2017.04 - EP US); **C21B 13/14** (2013.01 - EP US); **C21B 2100/44** (2017.04 - EP US); **C21B 2100/60** (2017.04 - EP US); **C21B 2100/64** (2017.04 - EP US)

Cited by

RU2688072C1; EP0257173A1; US6149708A; US5501721A; CN1064084C; US6143053A; EP0257172A1; RU2684462C1; GB2281311A; GB2281311B; US12084730B2; US10316376B2; WO9820171A1; WO9801586A1; WO9820172A1; WO9417214A1; US6379420B1; US10508314B2; US6235083B1; WO9801587A1

Designated contracting state (EPC)

AT BE FR GB IT LU NL SE

DOCDB simple family (publication)

**EP 0179734 A2 19860430**; **EP 0179734 A3 19861230**; **EP 0179734 B1 19891213**; AT E48651 T1 19891215; AU 4821485 A 19860417; AU 562850 B2 19870618; BR 8505068 A 19860729; CA 1278430 C 19910102; CN 1004282 B 19890524; CN 85108059 A 19860510; DD 246319 A5 19870603; DE 3437913 A1 19860424; DE 3437913 C2 19870507; JP S6191308 A 19860509; KR 860003350 A 19860523; KR 900004155 B1 19900618; SU 1503686 A3 19890823; US 4854967 A 19890808; US 4958808 A 19900925; ZA 857594 B 19861029

DOCDB simple family (application)

**EP 85730134 A 19850930**; AT 85730134 T 19850930; AU 4821485 A 19851002; BR 8505068 A 19851011; CA 492509 A 19851008; CN 85108059 A 19851012; DD 28162585 A 19851010; DE 3437913 A 19841012; JP 22602885 A 19851012; KR 850007515 A 19851012; SU 3966905 A 19851011; US 34588289 A 19890501; US 78669185 A 19851011; ZA 857594 A 19851002