

Title (en)
DEVICE FOR PRODUCING SPONGE IRON

Title (de)
VORRICHTUNG ZUR ERZEUGUNG VON EISENSCHWAMM

Title (fr)
DISPOSITIF DE PRODUCTION D'EPONGE DE FER

Publication
EP 0904415 B1 20010808 (DE)

Application
EP 97924927 A 19970530

Priority
• DE 9701127 W 19970530
• DE 19625127 A 19960612

Abstract (en)
[origin: DE19625127A1] In a device for producing sponge iron from lumps of iron oxide in a reduction shaft (1), a hot, dust-containing and carbon monoxide-rich reduction gas is used. The reduction gas is generated in a gas generator by partial oxidation of solid carbon-containing materials and is in part supplied to the reduction shaft through several lateral reduction inlets (3) arranged at the same height around the circumference of the reduction shaft at the lower end of the reduction zone. The lumps of iron oxide are introduced into the reduction shaft through its top area and discharged as sponge iron at its bottom end. Additional reduction gas inlets (15) shaped as downwardly open channels (11) which extend from the outside to the inside of the reduction shaft and/or shaped as ducts which extend obliquely downwards from the outside to the inside of the reduction shaft and have open inner ends are arranged below the plane of the lateral reduction gas inlets. Reduction gas may thus be also supplied to the radial inner area of the reduction shaft, so that the introduction of dust by the reduction gas is not limited to the outer area of the bulk material in the reduction shaft.

IPC 1-7
C21B 13/02; **C21B 13/14**

IPC 8 full level
C22B 5/12 (2006.01); **C21B 13/02** (2006.01); **C21B 13/14** (2006.01); **C22B 7/02** (2006.01)

CPC (source: EP US)
C21B 13/002 (2013.01 - EP US); **C21B 13/02** (2013.01 - EP US); **C21B 13/14** (2013.01 - EP US)

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DE 19625127 A1 19971218; **DE 19625127 C2 19980430**; AT 407645 B 20010525; AT A905797 A 20000915; AU 3025497 A 19980107; AU 730729 B2 20010315; BR 9709685 A 20000111; CA 2255076 A1 19971218; CN 1067107 C 20010613; CN 1222197 A 19990707; CZ 287903 B6 20010314; CZ 400098 A3 19990811; DE 59704252 D1 20010913; EP 0904415 A1 19990331; EP 0904415 B1 20010808; ID 17048 A 19971204; IN 191759 B 20031227; JP 2001501673 A 20010206; PL 330410 A1 19990510; SK 169598 A3 19990507; TR 199802556 T2 20010921; TW 422883 B 20010221; US 6379423 B1 20020430; WO 9747773 A1 19971218; ZA 974570 B 19971229

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DE 19625127 A 19960612; AT 905797 A 19970530; AU 3025497 A 19970530; BR 9709685 A 19970530; CA 2255076 A 19970530; CN 97195473 A 19970530; CZ 400098 A 19970530; DE 59704252 T 19970530; DE 9701127 W 19970530; EP 97924927 A 19970530; ID 972007 A 19970612; IN 1019CA1997 A 19970206; JP 53293697 A 19970530; PL 33041097 A 19970530; SK 169598 A 19970530; TR 9802556 T 19970530; TW 86107313 A 19970529; US 20226399 A 19990312; ZA 974570 A 19970526