

Title (en)
SHAFT FURNACE

Title (de)
SCHACHTOFEN

Title (fr)
FOUR VERTICAL

Publication
EP 0998586 A1 20000510 (DE)

Application
EP 98935032 A 19980710

Priority
• AT 119797 A 19970714
• EP 9804292 W 19980710

Abstract (en)
[origin: WO9904045A1] The invention relates to a shaft furnace (1), especially a direct reduction shaft furnace, with a fill (2) of bulk material, especially bulk material containing iron oxide and/or sponge iron, discharge devices (4) for the bulk material arranged above the floor area (3) of the shaft furnace (1), as well as inlet openings (6) for a reducing gas which are positioned above the discharge devices (4). Devices (7) for moving the material contained in the shaft furnace (1) are arranged between the area formed by the inlet openings (6) and the area formed by the discharge device (4).

IPC 1-7
C21B 13/02; **F27B 1/21**

IPC 8 full level
C21B 13/02 (2006.01); **F27B 1/10** (2006.01); **F27B 1/21** (2006.01)

CPC (source: EP KR US)
C21B 13/02 (2013.01 - EP KR US); **F27B 1/10** (2013.01 - EP US); **F27B 1/21** (2013.01 - EP US)

Citation (search report)
See references of WO 9904045A1

Designated contracting state (EPC)
DE GB IT LU

DOCDB simple family (publication)
WO 9904045 A1 19990128; AT 405332 B 19990726; AT A119797 A 19981115; AU 744469 B2 20020221; AU 8441898 A 19990210; BR 9811694 A 20000926; CA 2296318 A1 19990128; CN 1071381 C 20010919; CN 1263563 A 20000816; DE 59803356 D1 20020418; EP 0998586 A1 20000510; EP 0998586 B1 20020313; JP 2002511906 A 20020416; KR 100557230 B1 20060307; KR 20010021805 A 20010315; PL 338180 A1 20001009; TW 407166 B 20001001; US 6213762 B1 20010410; ZA 986239 B 19990205

DOCDB simple family (application)
EP 9804292 W 19980710; AT 119797 A 19970714; AU 8441898 A 19980710; BR 9811694 A 19980710; CA 2296318 A 19980710; CN 98807174 A 19980710; DE 59803356 T 19980710; EP 98935032 A 19980710; JP 50640699 A 19980710; KR 20007000369 A 20000113; PL 33818098 A 19980710; TW 87111386 A 19980713; US 46298500 A 20000114; ZA 986239 A 19980714