

Title (en)

METHOD FOR OPERATING A SHAFT FURNACE, IN PARTICULAR A BLAST FURNACE

Title (de)

VERFAHREN ZUM BETREIBEN EINES SCHACHTOFENS, INSBESONDERE EINES HOCHOFENS

Title (fr)

PROCÉDÉ D'EXPLOITATION D'UN FOURNEAU À CUVE, EN PARTICULIER D'UN HAUT FOURNEAU

Publication

**EP 3114242 A1 20170111 (DE)**

Application

**EP 15711666 A 20150227**

Priority

- DE 102014102913 A 20140305
- EP 2015054173 W 20150227

Abstract (en)

[origin: CA2940131A1] Depicted and described is a method for operating a shaft furnace, in particular a blast furnace, wherein at least one gas is introduced into the furnace (1). In order to be able to accelerate the reaction processes in the furnace (1), shock waves are introduced into the furnace (1).

IPC 8 full level

**C21C 5/00** (2006.01); **F27D 3/16** (2006.01); **F27D 19/00** (2006.01)

CPC (source: CN EP KR US)

**C21B 7/16** (2013.01 - KR); **C21C 5/00** (2013.01 - CN EP US); **F27B 1/16** (2013.01 - CN EP KR US); **F27D 3/16** (2013.01 - CN EP KR US); **F27D 19/00** (2013.01 - CN EP KR US); **F27D 2003/163** (2013.01 - CN EP KR US); **F27D 2003/164** (2013.01 - CN)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**DE 102014102913 A1 20150910**; BR 112016020191 B1 20210105; CA 2940131 A1 20150911; CA 2940131 C 20190514; CN 106104186 A 20161109; CN 106104186 B 20200602; EP 3114242 A1 20170111; EP 3114242 B1 20200422; ES 2798120 T3 20201209; JP 2017507248 A 20170316; JP 6620107 B2 20191211; KR 20160129881 A 20161109; MX 2016011312 A 20161205; PL 3114242 T3 20201102; RU 2696987 C1 20190808; US 10386119 B2 20190820; US 2017016673 A1 20170119; WO 2015132159 A1 20150911

DOCDB simple family (application)

**DE 102014102913 A 20140305**; BR 112016020191 A 20150227; CA 2940131 A 20150227; CN 201580011950 A 20150227; EP 15711666 A 20150227; EP 2015054173 W 20150227; ES 15711666 T 20150227; JP 2016555341 A 20150227; KR 20167027329 A 20150227; MX 2016011312 A 20150227; PL 15711666 T 20150227; RU 2016139032 A 20150227; US 201515123895 A 20150227