

Title (en)

NOZZLE FOR BLOWING GAS INTO MOLTEN METAL AND USAGE THEREOF

Title (de)

DÜSE ZUM EINBLASEN VON GAS IN SCHMELZE UND DEREN VERWENDUNG

Title (fr)

AJUTAGE SERVANT A INJECTER DU GAZ DANS UN METAL EN FUSION ET SON UTILISATION

Publication

**EP 0776983 A4 19980909 (EN)**

Application

**EP 96914400 A 19960523**

Priority

- JP 9601356 W 19960523
- JP 32444795 A 19951213
- JP 12610795 A 19950525

Abstract (en)

[origin: WO9637632A1] A nozzle for blowing a gas into a molten metal in a stable manner without causing the leakage of gas from its periphery, which has a simple structure and a long life, so that it does not require frequent replacements. The gas blowing nozzle comprises a refractory block formed unitarily with a metallic mounting member and provided with a small diameter through hole therein, and a small-diameter metallic gas blowing tube inserted slidably through the small-diameter hole. When the gas blowing nozzle and the surrounding refractory are worn, the metallic gas blowing tube is extended into the interior of a furnace, and a worn portion is repaired by packing a repairing material therein.

IPC 1-7

**C21C 7/072**

IPC 8 full level

**B22D 1/00** (2006.01); **C21C 5/48** (2006.01); **C21C 7/072** (2006.01); **F27D 1/16** (2006.01)

CPC (source: EP KR)

**B22D 1/005** (2013.01 - EP); **C21C 5/48** (2013.01 - EP); **C21C 7/072** (2013.01 - EP KR)

Citation (search report)

- [A] DE 3545763 A1 19870625 - DIDIER WERKE AG [DE]
- [A] EP 0566940 A1 19931027 - TECH RESOURCES PTY LTD [AU]
- [A] FR 2543576 A1 19841005 - MESSER GRIESHEIM GMBH [DE]
- See references of WO 9637632A1

Cited by

EP3023173A1; EA034188B1; EP3290532A4; US10330387B2; WO2016050380A1

Designated contracting state (EPC)

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**WO 9637632 A1 19961128**; CA 2195541 A1 19961128; CN 1053015 C 20000531; CN 1154720 A 19970716; DE 69615508 D1 20011031; DE 69615508 T2 20020529; EP 0776983 A1 19970604; EP 0776983 A4 19980909; EP 0776983 B1 20010926; JP 3894502 B2 20070322; JP H0941024 A 19970210; KR 100349870 B1 20030106; KR 970704892 A 19970906

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**JP 9601356 W 19960523**; CA 2195541 A 19960523; CN 96190548 A 19960523; DE 69615508 T 19960523; EP 96914400 A 19960523; JP 32444795 A 19951213; JP 53555896 A 19960523; KR 19970700435 A 19970123