

Title (en)

ARRANGEMENT OF A SLEEVE FOR THE INJECTION OF GASES OR SOLIDS INTO A LADLE CONTAINING A METALLURGICAL MELT

Publication

EP 0204076 A3 19870916 (DE)

Application

EP 86102833 A 19860304

Priority

DE 3520207 A 19850605

Abstract (en)

[origin: US4709905A] A casing assembly includes a nozzle brick to form part of a wall of a metallurgical vessel. The nozzle brick has therethrough a conical opening defined by a conical inner surface. A casing to be inserted into the conical opening has a truncated conical shape including a conical outer surface and an axially extending flow through opening. The conical opening and the casing have coaxial center axes, and the conical inner and outer surfaces extend at equal angles of inclination to such axes. The conical inner surface is jacketed with a thin metal shell having a conical shape with the same inclination as that of the conical inner and outer surfaces.

IPC 1-7

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IPC 8 full level

C21C 7/072 (2006.01); **B22D 1/00** (2006.01); **B22D 41/08** (2006.01); **B22D 41/42** (2006.01); **C21C 1/00** (2006.01); **C21C 5/48** (2006.01)

CPC (source: EP KR US)

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Citation (search report)

- [A] GB 1588636 A 19810429 - DAISHIN KAKO CO LTD
- [A] GB 2115539 A 19830907 - DIDIER WERKE AG
- [A] US 3610602 A 19711005 - DEACON ALEXANDER J, et al
- [A] EP 0137961 A1 19850424 - BROHLTAL DEUMAG AG [DE]

Cited by

DE19748389C2; FR2629101A1; BE1003020A3

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EP 0204076 A2 19861210; **EP 0204076 A3 19870916**; **EP 0204076 B1 19890816**; AT E45595 T1 19890915; BR 8602372 A 19870121; CA 1266970 A 19900327; CN 86102836 A 19861203; DE 3520207 A1 19861211; DE 3520207 C2 19870409; ES 296706 U 19871216; ES 296706 Y 19881101; IL 78680 A0 19860831; JP S61279611 A 19861210; KR 870000121 A 19870216; US 4709905 A 19871201; ZA 862540 B 19861126

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