

Title (en)  
Purifying molten metal

Title (de)  
Reinigen von geschmolzenem Metall

Title (fr)  
Purification de métal fondu

Publication  
**EP 0576212 B1 19990414 (EN)**

Application  
**EP 93304736 A 19930617**

Priority  
GB 9212953 A 19920618

Abstract (en)  
[origin: GB2267855A] Unwanted solid, non-metallic inclusions are removed from molten metal in a refractory-lined vessel such as a tundish by bubbling inert gas upwardly through the metal by providing a gas permeable nozzle block (16) shaped to contain a nozzle (17) with a centrally-disposed through bore and to be sealingly set in the refractory lining (13) of a vessel (10) to contain molten metal, the nozzle block (16) having a gas-receiving channel (18) to extend around the nozzle (17) and means to connect the gas-receiving channel (18) to a source of gas. The gas-receiving channel may contain a pipe having perforations in its upper surface. The nozzle block may be substantially non-porous below the gas-receiving channel and the composition of the nozzle block may compose at least 75% by weight alumina. <IMAGE>

IPC 1-7  
**B22D 1/00**; C22B 9/05; B22D 41/58

IPC 8 full level  
**B22D 1/00** (2006.01); **B22D 41/58** (2006.01)

CPC (source: EP)  
**B22D 1/005** (2013.01); **B22D 41/58** (2013.01)

Cited by  
US5723055A; KR100986053B1; EP2025431A1; DE102008015323A1; JP2023515903A; WO0050190A1; WO2004035249A1

Designated contracting state (EPC)  
DE ES FR IT

DOCDB simple family (publication)  
**GB 2267855 A 19931222**; **GB 2267855 B 19950920**; **GB 9312074 D0 19930728**; DE 69324408 D1 19990520; DE 69324408 T2 19991216; EP 0576212 A2 19931229; EP 0576212 A3 19941123; EP 0576212 B1 19990414; ES 2132188 T3 19990816; GB 9212953 D0 19920729

DOCDB simple family (application)  
**GB 9312074 A 19930611**; DE 69324408 T 19930617; EP 93304736 A 19930617; ES 93304736 T 19930617; GB 9212953 A 19920618