

Title (en)  
PROCESSING MATERIALS IN FURNACES

Publication  
**EP 0180010 A3 19880810 (EN)**

Application  
**EP 85111305 A 19850906**

Priority  
US 66540484 A 19841026

Abstract (en)  
[origin: EP0180010A2] A structure is shown for achieving low oxygen content high quality atmosphere surrounding a workpiece as it is processed in the reducing atmosphere of a furnace. The structure is a container which encloses the workpiece and functions as a catalyst for the reaction of H<sub>2</sub> and O<sub>2</sub> in an H<sub>2</sub> containing atmosphere, i.e., H<sub>2</sub> and forming gas, etc. The structure of the enclosure or container includes a bottom tray or boat 10 which is coated with a metal such as platinum and a top or cover 12 made from metal screening or metal coated screening which metal may also be platinum. The bottom tray may also be composed of mesh or screening material as an alternative to being solid. Platinum is a preferred embodiment for the metal boat and screen because it is an excellent catalyst for the reaction of O<sub>2</sub> and H<sub>2</sub> and is active at temperatures at least as low as 150 DEG C. One or more workpieces may be disposed in the boat so they are surrounded by the catalyst metal. The catalyst reaction depends upon gas contact with the surface, and the screening offers a large surface area which enhances this contact while still allowing the furnace gases to flow and convectively heat the workpiece.

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**C21D 9/00** (2006.01); **F27B 9/04** (2006.01); **F27B 9/26** (2006.01); **F27B 9/30** (2006.01); **F27D 3/12** (2006.01); **F27D 5/00** (2006.01); **H01L 21/322** (2006.01); **H05K 3/34** (2006.01); **F27D 1/00** (2006.01)

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