

Title (en)

Process and apparatus for preparing powder alloys by rapid solidification.

Title (de)

Verfahren und Vorrichtung zur Herstellung von Pulverlegierungen durch schnelle Erstarrung.

Title (fr)

Dispositif et procédé pour la préparation d'alliages en poudre, par solidification rapide.

Publication

EP 0457674 A1 19911121 (FR)

Application

EP 91401246 A 19910515

Priority

FR 9006104 A 19900516

Abstract (en)

The invention relates to an apparatus and a process for producing metal powders by centrifugal spraying. The apparatus, comprising a crucible equipped with a nozzle at its lower part, a cupel associated with means capable of placing the said cupel in rotation and means for heating the said crucible and the said cupel, is characterised in that it comprises, in addition, means permitting regulation of the distance between the lower opening of the nozzle and the upper face of the cupel, and in that the external diameter ΦH_i of the lower face of the nozzle is such that $\Phi H_i + 2 \text{ mm} \leq \Phi H_c \leq \Phi H_c$, ΦH_c being the diameter of the cupel and ΦH_i being the internal diameter of the nozzle. The process consisting in supplying a rotating cupel with molten metal, the molten metal being contained in a crucible equipped at its lower part with a nozzle, the upper face of the cupel and the lower opening of the nozzle being opposite and substantially parallel, the opening of the nozzle being centred on the cupel, is characterised in that the liquid metal is extracted from the said crucible by the reduction in pressure created by the cupel in rotation about a vertical axis. <IMAGE>

IPC 1-7

B22F 9/10

IPC 8 full level

B22F 9/10 (2006.01)

CPC (source: EP)

B22F 9/10 (2013.01)

Citation (search report)

- [A] US 4374074 A 19830215 - UEDA SETSUO [JP], et al
- [A] DE 3326831 A1 19850307 - BAYER AG [DE]
- [A] US 4648820 A 19870310 - SCRUGGS DAVID M [US], et al

Cited by

CN110961640A; CN113399674A

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0457674 A1 19911121; EP 0457674 B1 19951018; DE 69113861 D1 19951123; FR 2662102 A1 19911122; FR 2662102 B1 19920731

DOCDB simple family (application)

EP 91401246 A 19910515; DE 69113861 T 19910515; FR 9006104 A 19900516