

Title (en)

Method to simultaneously pulverize and vaporize metals into particles of varied size distribution.

Title (de)

Verfahren zur gleichzeitigen Pulverisierung und Verdampfung von Metallen mit variabler Grössenverteilung.

Title (fr)

Procédé de pulvérisation et de vaporisation simultanée de métaux en particules à distribution de taille variable.

Publication

EP 0347386 A1 19891220 (EN)

Application

EP 89810438 A 19890609

Priority

CH 225388 A 19880613

Abstract (en)

The metal to be pulverized is subjected to an electric arc in a closed vessel containing a gas which is dissociated by the arc. The metal melts at least partially and the gas dissolves into the molten metal where it reassociates and, due to the binding energy, causes the metal to evaporate. Simultaneously, some portions of molten metal migrate by convection to cooler zones whereby oversaturation by the gas occurs which results into bubble formation. The bubbles burst and metal particles are spattered away, the rates of both evaporation and spattering depending on the temperature differences of the hotter and lesser hot zones. Pulverization is periodically interrupted to periodically disturb thermal and dynamic operative conditions which evolve to equilibrium.

IPC 1-7

B22F 9/14

IPC 8 full level

B22F 9/14 (2006.01)

CPC (source: EP)

B22F 9/14 (2013.01)

Citation (search report)

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- [A] WO 8404065 A1 19841025 - NUCLEAR METALS INC [US]
- [AD] US 4689075 A 19870825 - UDA MASAHIRO [JP], et al
- [A] FR 550891 A 19230322
- [A] FR 937763 A 19480826
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