

PatentNumber: **US7481864** (2009/01/27) Application Number **11/036,654** (2005/01/14)

Title: Conversion of ta.sub.2o.sub.5 to ta metal

Assignee: Cabot Corporation (Boston, MA)

Inventor: Mariani: Robert (Douglassville, PA)

Priority Number: Priority Date:

USPC:75/369

IPC: B22F 9/20 (20060101)

Abstract:

Processes for producing valve metal are described, in which valve metal oxide is converted to valve metal using a vapor-phase transport agent to form a gaseous valve metal species in the presence of a solid getter material. Also described is the valve metal so produced, and anodes prepared from the valve metal, as well as electrolytic capacitors using the anodes.

PatentNumber: **US7485254** (2009/02/03) Application Number **11/641,428** (2006/12/19)

Title: Metal powder production apparatus

Assignee: Seiko Epson Corporation (JP)

Inventor: Nakabayashi: Koei (Hachinohe, JP);✕

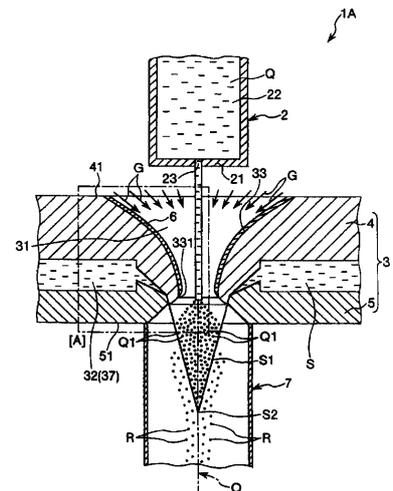
Priority Number: [JP]2005-367229 Priority Date: 2005/12/20

USPC:266/202;75/343

IPC: C21C 1/00 (20060101);B22F 9/06 (20060101)

Abstract:

A metal powder production apparatus includes a supply part for supplying molten metal and a nozzle having a first member and a second member by which an orifice for injecting water is defined. The first member has a gradually reducing inner diameter portion. A heat insulating layer for cutting off radiant heat emitted from the molten metal is formed on the gradually reducing inner diameter portion of the first member. the nozzle is configured to ensure that the gradually reducing inner diameter portion is prevented, under an action of the heat of the molten metal but a region of the first member near the orifice is thermally deformed in such a direction as to reduce a size of the orifice by absorbing the radiant heat of the molten metal, whereby the orifice can be restrained from being enlarged by the pressure of the water passing through the ✕



PatentNumber: **US7494527** (2009/02/24) Application Number **11/041,870** (2005/01/25)

Title: Process for plasma synthesis of rhenium nano and micro powders, and for coatings and near ✕

Assignee: Tekna Plasma Systems Inc. (Sherbrooke, CA)

Inventor: Jurewicz: Jerzy W. (Sherbrooke, CA);✕

Priority Number: Priority Date:

USPC:75/346;977/896

IPC: B22F 9/22 (20060101)

Abstract:

The process for the synthesis of rhenium powders comprises the injection of ammonium perrhenate powder through a carrier gas in a plasma torch of a plasma reactor operated using a mixture including hydrogen as the plasma gas, yielding metallic rhenium under the following chemical reaction: $2 \text{NH}_4\text{ReO}_4 + 4 \text{H}_2 \rightarrow 2 \text{Re} + \text{N}_2 + 8 \text{H}_2\text{O}$. The reactor is provided with a quench zone for cooling the metallic rhenium so as to yield rhenium nano and micro powders.

