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(71) Applicant: REACTIVE METAL PARTICLES AS
[NO/NO]; Neslia 1, N-1344 Haslum (NO).

(72) Inventor: RUUD, Eirik; Erling Skjalgssons gate 21, N-0267 Oslo (NO).

(74) Agents: ONSAGERS AS et al.; P.O.Box 1813 Vika, N-0123 Oslo (NO).

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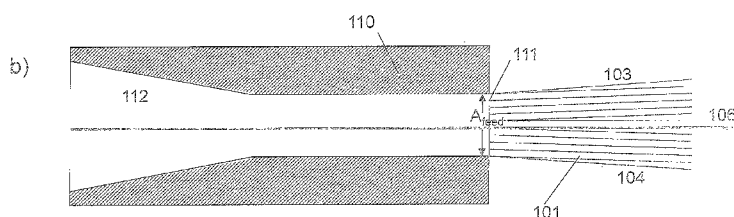


Figure 1

(57) Abstract: The present invention relates to an apparatus and method for manufacturing solid particles based on inert gas evaporation, where the method comprises forming a continuous gaseous feed flow comprising a saturated vapour of the material, and injecting the continuous gaseous feed flow through an inlet into a free-space region of a reactor chamber in the form of a feed jet flow protruding from the inlet, and forming at least one continuous jet flow of a cooling fluid and injecting the at least one jet flow of cooling fluid into the reaction chamber, wherein the feed jet flow is made by passing the feed flow at a pressure above the reactor chamber pressure in the range from $0.01 \cdot 10^5$ to $20 \cdot 10^5$ Pa through an injection nozzle functioning as the reactor inlet and which has a rectangular cross-sectional area of the nozzle opening with height A_{feed} and width B_{feed} , where the aspect ratio $B_{\text{feed}}/A_{\text{feed}}$ is ≥ 2 : 1, and the height A is in the range from 0.1 to 40 mm, and each of the at least one jet flow of cooling fluid is made by passing the cooling fluid through an injection nozzle which directs the jet flow of cooling fluid such that it intersects the feed jet flow with an intersection angle between 30 and 150°, and where each of the at least one jet flow of cooling fluid, either individually or combined, mixes with substantially all of the gas of the feed jet flow at an intended distance apart from the nozzle opening for injection of the feed jet flow.