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[54] PRODUCING VOID-FREE METAL ALLOY POWDERS BY MELTING AS WELL AS ATOMIZATION UNDER NITROGEN AMBIENT

[75] Inventors: **Francis S. Biancaniello**, Gaithersburg, Md.; **Gregg N. Janowski**, Hoover, Ala.; **Stephen D. Ridder**, Gaithersburg, Md.

[73] Assignee: **The United States of America as represented by the Secretary of Commerce**, Washington, D.C.

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[58] **Field of Search** ..... 75/338, 339; 148/11.5 P, 16; 264/12

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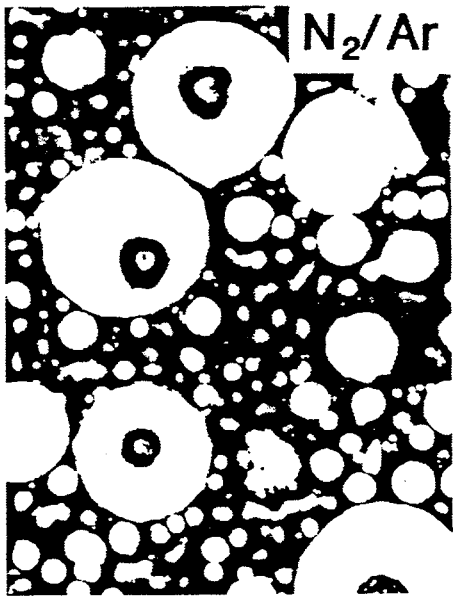
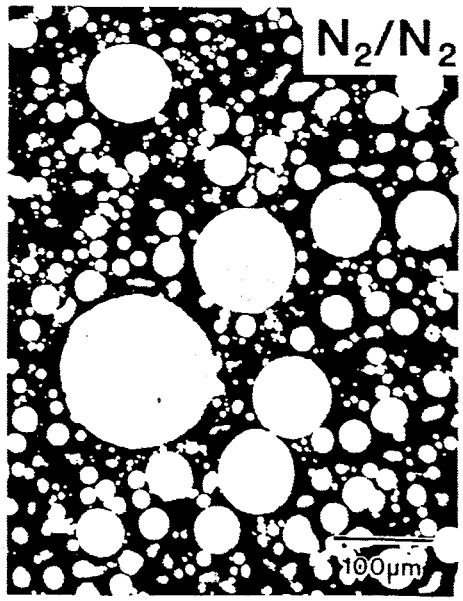
Primary Examiner—Upendra Roy
Attorney, Agent, or Firm—Michael S. Gzybowski

[57] **ABSTRACT**

A method of producing nitrogenated metal alloys which involves melting a metal alloy under a nitrogen atmosphere and subsequently gas atomizing the molten alloy with nitrogen gas has been found to produce alloys powders having a high nitrogen content and a minimum amount of hollow particles. The resulting alloy powders which demonstrate superior mechanical properties and heat and chemical resistance are easily fabricated into articles utilizing powder metallurgical processes.

22 Claims, 7 Drawing Sheets