United States Patent [19]

Wiewiorowski et al.

[11] **4,384,889**

[45] **May 24, 1983**

[54] **SIMULTANEOUS LEACHING AND CEMENTATION OF PRECIOUS METALS**

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[21] Appl. No.: **254,534**

[22] Filed: **Apr. 15, 1981**

[51] **Int. Cl.**[3] **C22B 3/00**

[52] **U.S. Cl.** ..... **75/101 R;** 75/106; 75/109; 75/118 R; 75/121

[58] **Field of Search** ..... 423/27, 29, 22; 75/105, 75/106, 118, 109, 121, 101 R

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[57] **ABSTRACT**

A method for the recovery of precious metals such as gold and silver from various ore types is disclosed which involves subjecting a slurry of the ore to a simultaneous leaching and cementation process with a reagent such as an alkaline cyanide solution providing for the leaching requirement and a reducing metal affording cementation. The reducing metal is selected from the group consisting of cadmium, copper, iron, lead, molybdenum, tin, zinc and alloys and mixtures comprising at least two of these metals. The simultaneous leaching and cementation occur under conditions controlled to afford at least partial dissolution of the precious metal values from the ore, whereby continuous transfer of these values from the ore onto the surface of the reducing metal is promoted. The resultant cementation product, i.e., the reducing metal with precious metal values cemented thereon, is separated from the ore slurry and subjected to a subsequent precious metal recovery step by conventional methods.

28 Claims, 1 Drawing Figure