United States Patent [19]

Escobar, Jr. et al.

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[54] **COPPER ROD MANUFACTURED BY CASTING, HOT ROLLING AND CHEMICALLY SHAVING AND PICKLING**

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[52] **U.S. Cl.** **148/432;** 420/469

[58] **Field of Search** 148/432; 420/469

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[57] **ABSTRACT**

Copper rod has an improved surface smoothness and substantially no surface oxides, which rod is suitable for drawing or rolling into wire. The copper rod is produced by a process which comprises the steps of forming a bath of molten pure copper, casting the molten copper into a cast bar, conditioning the bar for hot-rolling, hot-rolling the bar to form a hot-rolled rod, cooling the hot-rolled rod and chemically shaving and pickling the hot-rolled rod. The chemical shaving and pickling step is performed with a solution containing controlled concentrations of sulfuric acid and hydrogen peroxide. Both the solution and the rod are maintained at elevated temperatures and the duration of the reaction is controlled. The interrelated process variables are regulated so that substantially all of the surface oxides and a desired amount of copper are removed from the surface of the hot-rolled rod.

7 Claims, 3 Drawing Sheets