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United States Patent [19]

Knerr et al.

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[45] **Date of Patent: Aug. 24, 1999**

[54] **SOLID MAGNET WIRE WINDING LUBRICANTS**

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[73] Assignee: **Phelps Dodge Industries, Inc.**, Fort Wayne, Ind.

[21] Appl. No.: **08/661,378**

[22] Filed: **Jun. 11, 1996**

Related U.S. Application Data

[63] Continuation of application No. 08/290,482, Aug. 15, 1994, abandoned.

[51] **Int. Cl.**[6] **C10M 105/32**; C10M 105/34; C10M 105/36

[52] **U.S. Cl.** **508/465**; 508/463; 508/501

[58] **Field of Search** 508/501, 465, 508/463

[56] **References Cited**

U.S. PATENT DOCUMENTS

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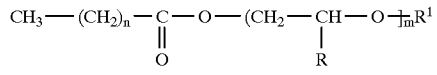
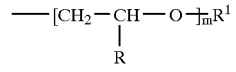
[57] **ABSTRACT**

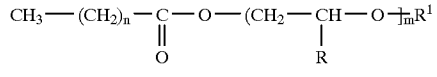
A magnet wire insulation material having combined therewith a magnet wire winding lubricant having the formula of



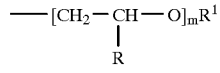
where n is from about 0 to about 26, m is from about 1 to about 35 and R is a hydrogen atom or any alkyl or acyl radical or a



radical, and R^1 is a hydrogen atom or an alkyl or an acyl radical and a magnet wire having superimposed on a base insulation material a coating of a lubricant having the formula of



where n is from about 0 to about 26, m is from about 0 to about 35 and R is a hydrogen atom or any alkyl or acyl radical or a



radical, and R^1 is a hydrogen atom or an alkyl or an acyl radical.

11 Claims, 1 Drawing Sheet