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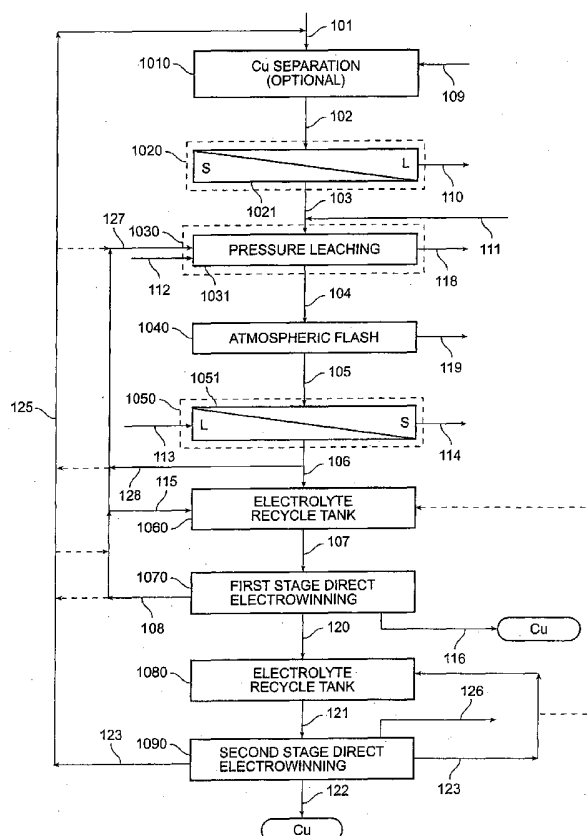
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- (71) **Applicant** (*for all designated States except US*): **PHELPS DODGE CORPORATION** [US/US]; One North Central, Phoenix, Arizona 85004 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants** (*for US only*): **BREWER, Robert**, E. [US/US]; 1585 Empire Avenue, Park City, Utah 84060 (US). **ROBERTSON, Joanna, M.** [US/US]; 1452 South Drunner Lane, Thatcher, Arizona 85552 (US). **MARSDEN, John, O.** [US/US]; 1248 East Seminole Drive.

Phoenix, Arizona 85022 (US). **BAUGHMAN, David, R.** [US/US]; 15941 West Third Place, Golden, Colorado 80401 (US). **THOMPSON, Phillip** [US/US]; 4513 White Cherry Way, West Valley City, Utah 84120 (US). **HAZEN, Wayne, W.** [US/US]; 2655 Van Gordon Drive, Lakewood, California 80215 (US). **BEMELMANS, Christel, M., A.** [US/US]; 24268 Matterhorn Drive, Indian Hills, Colorado 80454 (US).

- (74) **Agent:** NEAL, Wendy, S.; SNELL & WILMER L.L.P.,
400 East Van Buren, Phoenix, Arizona 85004 (US).
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MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
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[Continued on next page]

- (54) Title:** PROCESS FOR MULTIPLE STAGE DIRECT ELECTROWINNING OF COPPER



(57) Abstract: A system and process for recovering copper from a copper-containing ore, concentrate, or other copper-bearing material to produce high quality cathode copper from a leach solution without the use of copper solvent/solution extraction techniques or apparatus. A process for recovering copper from a copper-containing ore generally includes the steps of providing a feed stream containing comminuted copper-containing ore, concentrate, or other copper-bearing material (101), leaching the feed stream to yield a copper-containing solution (1030), conditioning the copper-containing solution through one or more physical or chemical conditioning steps, and electrowinning copper directly from the copper-containing solution in multiple electrowinning stages (1070, 1080), without subjecting the copper-containing solution to solvent/solution extraction prior to electrowinning.



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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/130076 A1 (MARSDEN JOHN O ET AL) 8 July 2004 (2004-07-08) paragraphs [0023] - [0035]; figure 1	1-50
Y	US 4 066 520 A (EMMETT, JR. ET AL) 3 January 1978 (1978-01-03) column 3, line 47 - column 7, line 49	1-50
A	US 5 622 615 A (YOUNG ET AL) 22 April 1997 (1997-04-22) column 3, line 3 - column 4, line 49 column 8, line 66 - column 9, line 27; figure 3	1-50

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Desbois, V

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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