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(54) **Title:** PERMANENT CATHODE AND A METHOD FOR TREATING THE SURFACE OF A PERMANENT CATHODE

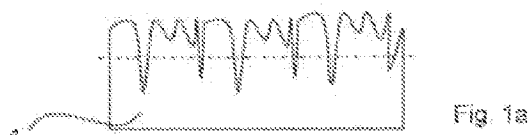


Fig. 1a

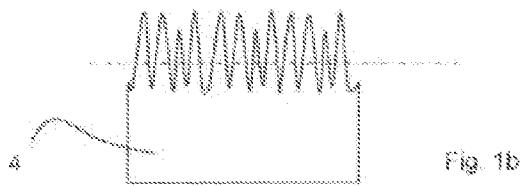


Fig. 1b

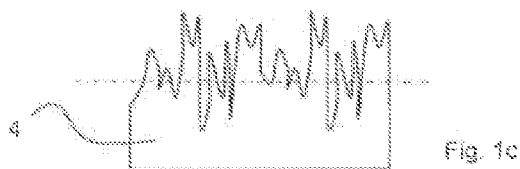


Fig. 1c

(57) **Abstract:** The invention relates to a permanent cathode (1) to be used as an electrode in the electro-winning of metals, including a permanent cathode plate (4) at least partially made of steel and providing the possibility of electrochemically depositing metal from an electrolytic solution onto its surface (6), in which case the dimensions of the grain boundaries (7) on the surface (6) of the permanent cathode plate (4) are arranged to be suitable for the adhesion of deposited metal on the surface and the stripping of metal from the surface at least in a part of the surface that is in contact with the electrolyte. The invention also relates to a method for treating the surface of a permanent cathode.





**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *of inventorship (Rule 4.17(iv))*

- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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A. CLASSIFICATION OF SUBJECT MATTER See extra sheet According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC: C25C Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched FI, SE, NO, DK Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI, XPESP, INSPEC, COMPDX		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010078319 A1 (PALMU LAURI) 01 April 2010 (01.04.2010) paragraphs [0002], [0006], [0012]; claims 1, 9, 10	1, 7, 8
X	US 7807028 B2 (WEBB WAYNE K - WEBB WAYNE KEITH) 05 October 2010 (05.10.2010) claims 1, 10, 16, 18; column 4, lines 20-45; column 5, lines 10-49; column 10, lines 43-61	1, 5-15
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family
Date of the actual completion of the international search 05 December 2012 (05.12.2012)		Date of mailing of the international search report 13 December 2012 (13.12.2012)
Name and mailing address of the ISA/FI National Board of Patents and Registration of Finland P.O. Box 1160, FI-00101 HELSINKI, Finland Facsimile No. +358 9 6939 5328		Authorized officer Heimo Koskinen Telephone No. +358 9 6939 500

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