

14 MAR 2002

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

162162

(43) International Publication Date
3 May 2001 (03.05.2001)

PCT

(10) International Publication Number
WO 01/31085 A3(51) International Patent Classification⁷: C22C 45/04, C25B 11/04

(21) International Application Number: PCT/CA00/01251

(22) International Filing Date: 23 October 2000 (23.10.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2,287,648 26 October 1999 (26.10.1999) CA

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

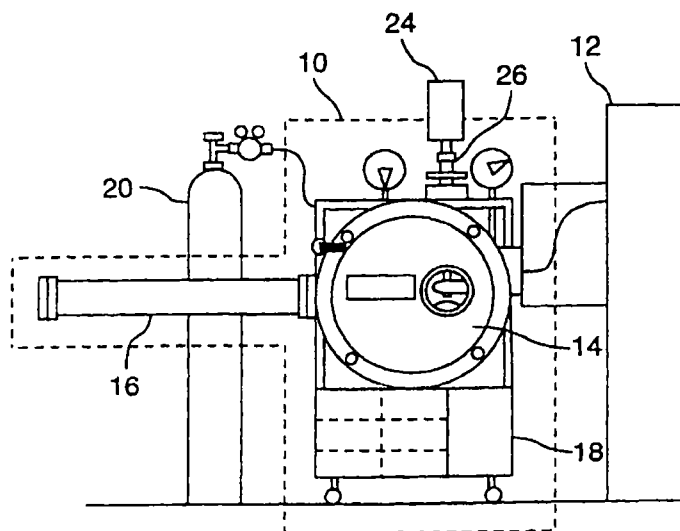
Published:

— with international search report

(88) Date of publication of the international search report:
20 September 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AMORPHOUS METAL/METALLIC GLASS ELECTRODES FOR ELECTROCHEMICAL PROCESSES



(57) Abstract: Metallic glass / amorphous metal electrodes produced by rapid solidification (i) having a structure that is either amorphous or nanocrystalline, (ii) containing the principal alloying element as Ni, (iii) containing alloying additions of Co and at least one member of group IVB, VB, VIB, VIIB and/or VIIIB, preferably Cr and V, in the range of 0 to 20 at. %, and when combined with Ni, represent 0.75 to 0.85 of the atomic fraction of the alloy, and (iv) containing metalloid elements comprised preferably of one or more of the elements C, B, Si and P either singly or in combination to represent 0.15 to 0.25 atomic fraction of the alloy. The electrodes have excellent thermal stability, improved stability in an aqueous electrolyte and can provide improved current efficiency - anodic overpotential performance. They are used in the electrolysis of aqueous electrolyte solutions such as mixtures of caustic and water in the production of oxygen and hydrogen.

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