

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

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 January 2001 (25.01.2001)

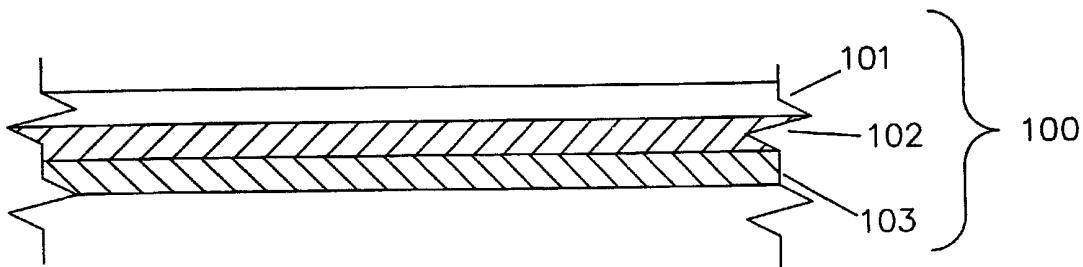
PCT

(10) International Publication Number
WO 01/06578 A3

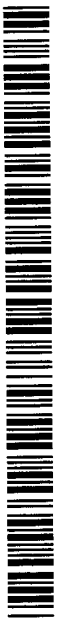
- (51) International Patent Classification⁷: H01M 10/40, 4/02, 4/04
- (21) International Application Number: PCT/US00/19348
- (22) International Filing Date: 14 July 2000 (14.07.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/144,146 16 July 1999 (16.07.1999) US
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- (81) Designated States (national): AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LS, LT, LV, MA, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, ZA.
- (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:
11 October 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: LITHIUM THIN FILM LAMINATION TECHNOLOGY ON ELECTRODE TO INCREASE BATTERY CAPACITY



(57) Abstract: Lithium is laminated onto or into an electrode structure comprising a metal conducting layer with an active material mixture of, for example, a nano-composite of silicon monoxide, together with graphite and a binder, such as polyvinyl di-fluoride (PVDF). The lamination of lithium metal onto or into the electrode structure will reduce the amount of irreversible capacity by readily supplying a sufficient amount of lithium ions to form the initial solid electrolyte interface. In order to laminate lithium metal onto or into the negative electrode, the lithium is first deposited onto a carrier, which is then used to laminate the lithium metal onto or into the electrode structure. The next step is placing the coated electrode material and the lithium-deposited plastic between two rollers or two plates. The rollers or plates are heated to about 120° C or within the range of 25° C to 250° C. A pressure of 50 kg/cm² to 600 kg/cm² is applied to the rollers. The speed of movement of the materials through the roller pair or the plate pair is in the range of 10 cm/min to 5 m/min. The method can be used for either single-sided or double-sided coating. Using this technology alone, the battery capacity can increase by 7% to 15%.



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INTERNATIONAL SEARCH REPORT

Inter. Appl. No. PCT/US 00/19348

PCT/US 00/19348

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H01M10/40 H01M4/02 H01M4/04

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 7 H01M

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)

PAJ, EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 02, 26 February 1999 (1999-02-26) -& JP 10 302839 A (JAPAN STORAGE BATTERY CO LTD), 13 November 1998 (1998-11-13) abstract	1-4
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 09, 30 July 1999 (1999-07-30) -& JP 11 111267 A (TOYOTA MOTOR CORP), 23 April 1999 (1999-04-23) abstract	1,7
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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- *&* document member of the same patent family

Date of the actual completion of the international search

2 May 2001

Date of mailing of the international search report

09/05/2001

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INTERNATIONAL SEARCH REPORT

Interr. nal Application No PCT/US 00/19348
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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Information on patent family members

International Application No

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