

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

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
20 February 2003 (20.02.2003)

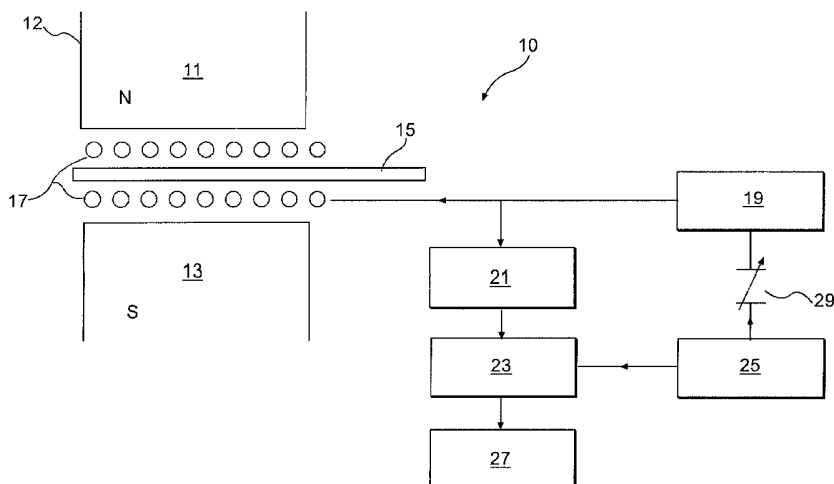
PCT

(10) International Publication Number  
**WO 03/014700 A3**

- (51) International Patent Classification<sup>7</sup>: **G01N 33/00**, 23/223, G08B 13/18
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- (21) International Application Number: PCT/US02/25034
- (22) International Filing Date: 7 August 2002 (07.08.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/310,975 8 August 2001 (08.08.2001) US
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report

[Continued on next page]

(54) Title: USE OF ISOTOPES TO PROVIDE INFORMATION TO AN ARTICLE



(57) Abstract: The present invention relates to a method for associating information with an article (fig. 1), an isotopic labeling composition to label an article (15) with information using at least two different isotopes of an element, and an article labeled with the labeling composition. In the labeling composition, the isotopes of the labeling composition have an abundance ratio that is detectably different from the natural abundance ratio thereof. By detecting the abundance ratio(s) of the isotopes in the labeling composition, via laser ablation/magnetic spectroscopy, an NQR spectrometer (40), an NMR spectrometer (10), an IR spectrometer, or a microwave spectrometer, information about the article can be determined. The invention may be used to identify, authenticate or determine the source or origin of an article or to provide detailed information about an article.



WO 03/014700 A3



(88) Date of publication of the international search report:  
1 May 2003

*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.*

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/25034

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : G01N 33/00, 23/223; G08B 13/18

US CL : 250/302, 303; 378/45, 47, 53; 436/56; 340/5.86, 5.8, 572.1

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)

U.S. : 250/302, 303; 378/45, 47, 53; 436/56; 340/5.86, 5.8, 572.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONEElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EAST/WEST**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category * | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|------------|-------------------------------------------------------------------------------------|-----------------------|
| A          | US 5,760,394 A (WELLE) 02 June 1998 (02.06.1998), see entire document.              | 1-37                  |
| A          | US 4,742,340 A (NOWIK et al) 03 May 1988 (03.05.1988), see entire document.         | 1 - 37                |
| A          | US 4,862,143 A (HIRSHFIELD et al) 29 August 1989 (29.08.1989), see entire document. | 1 - 37                |
| A,P        | US 6,477,227 B1 (KAISER et al) 05 November 2002 (05.11.2002), see entire document.  | 1 - 37                |



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

09 January 2003 (09.01.2003)

Date of mailing of the international search report

13 FEB 2003

Name and mailing address of the ISA/US

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