

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 December 2004 (02.12.2004)

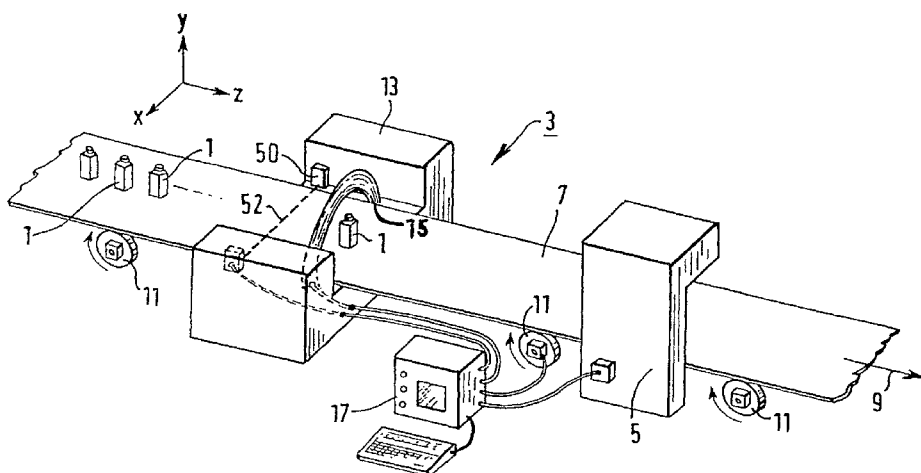
PCT

(10) International Publication Number
WO 2004/104600 A2

- (51) International Patent Classification⁷: **G01R** (74) Agent: **ZEBRAK, Ira, L.**; The BOC Group, Inc., 575 Mountain Avenue, Building 4 South, Murray Hill, NJ 07974 (US).
- (21) International Application Number: PCT/US2004/013215
- (22) International Filing Date: 30 April 2004 (30.04.2004) (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, 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, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/471,232 16 May 2003 (16.05.2003) US
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- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: NMR MEASURING SYSTEM FOR WEIGHT AND HUMIDITY OF POWDERS



(57) Abstract: An improvement in a magnetic resonance method for determining the mass of samples wherein the samples (1) include powdered solid materials, including applying a first magnetic field in a first direction in an interrogation zone (103) for creating a net magnetisation within a sample (1) located within the interrogation zone (103); applying an alternating magnetic field in a second direction in the interrogation zone (103) for temporarily changing the net magnetisation of the sample (1); monitoring energy emitted by the sample (1) as the net magnetisation of the sample (1) returns to its original state and generating an output signal having a characteristic which is proportional to the energy emitted; comparing the output signal characteristic with like data obtained from at least one similar sample of known mass; and, determining the mass of the sample (1); the improvement being one of generating the static magnetic field having a field strength on the order of about 0.5T, or disposing the samples (1) within a distance of about 0.5mm from the surface of the magnetic probe (13) generating the static magnetic field; applying the alternating magnetic field to the sample (1); sensing the free induction decay energy of the sample and generating a corresponding output free induction decay signal.



Published:

— without international search report and to be republished
upon receipt of that report

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