

(43) International Publication Date
16 September 2010 (16.09.2010)

PCT

(10) International Publication Number
WO 2010/104213 A1(51) International Patent Classification:
G01N 27/90 (2006.01)(21) International Application Number:
PCT/JP2010/054621(22) International Filing Date:
11 March 2010 (11.03.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2009-057571 11 March 2009 (11.03.2009) JP
2009-113360 8 May 2009 (08.05.2009) JP
2009-118402 15 May 2009 (15.05.2009) JP(71) Applicant (for all designated States except US): **SUMITOMO CHEMICAL COMPANY, LIMITED** [JP/JP];
27-1, Shinkawa 2-chome, Chuo-ku, Tokyo, 1048260 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HASHIMOTO, Mitsuo** [JP/JP]; 48-1-7C-4, Yanagimachi, Goshogawara-shi, Aomori, 0370073 (JP). **MORI, Hisakazu** [JP/JP]; 1-5-321, Wakamizu-cho, Niihama-shi, Ehime, 7920017 (JP). **SUETSUGU, Hidehiko** [JP/JP]; 2-1-75, Kubota-cho, Niihama-shi, Ehime, 7920026 (JP). **TADA, Toyokazu** [JP/JP]; 2-3-722, Ikku-cho, Niihama-shi, Ehime, 7920025 (JP).(74) Agents: **TANAKA, Mitsuo** et al.; AOYAMA & PARTNERS, IMP Building, 3-7, Shiromi 1-chome, Chuo-ku, Osaka-shi, Osaka, 5400001 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

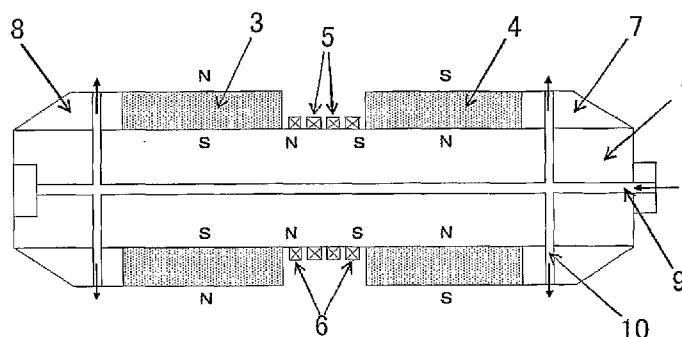
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- 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))

(54) Title: EDDY CURRENT FLAW DETECTION PROBE

Fig. 1



(57) Abstract: An insertion type eddy current flaw detection probe that is capable of more accurately detecting flaws in magnetic tubes is provided. A method for inspecting magnetic tubes for flaws with high accuracy is also provided. A eddy current flaw detection probe comprises a cylindrical yoke (1), a plurality of detection coils (5) disposed around the central portion of the cylindrical yoke in the direction of a cylindrical axis thereof, first and second inner excitation coils (6) disposed on both sides of the plurality of detection coils in the direction of the cylindrical axis, and first and second permanent magnets (3, 4) disposed around the yoke on both sides of the first and second excitation coils in the direction of the cylindrical axis so that the direction of magnetizations thereof are parallel to the radial direction of the yoke and magnetic poles on the cylindrical yoke side thereof are different from each other.