PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) Interpational Patent Classification 6 : G01N 31/22

A1

(11) International Publication Number: WO 99/02986

(43) International Publication Date: 21 January 1999 (21.01.99)

(21) International Application Number: PCT/US98/13887

(22) International Filing Date: 7 July 1998 (07.07.98)

(30) Priority Data:
08/893,876 11 July 1997 (11.07.97) US

(71) Applicant: DONALDSON COMPANY, INC. [US/US]; 1400 West 94th Street, P.O. Box 1299, Minneapolis, MN 55440–1299 (US).

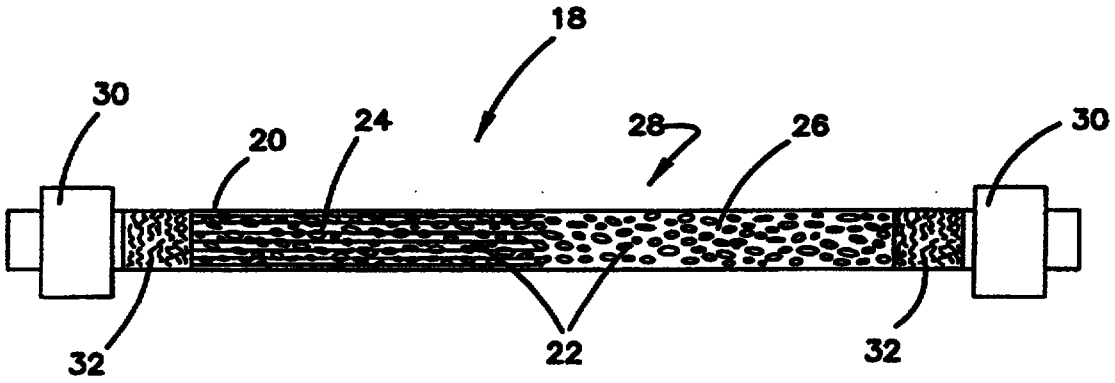
(72) Inventors: DALLAS, Andrew, J.; 5015–148th Path, Apple Valley, MN 55124 (US). GRAHAM, Kristine, M.; 3219 Chase Road, Minnetonka, MN 55305 (US). GRAFE, Timothy, H.; 4242 Grimes Avenue South, Edina, MN 55416 (US).

(74) Agent: BRUESS, Steven, C.; Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A., 3100 Norwest Center, 90 South Seventh Street, Minneapolis, MN 55402–4131 (US).

(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, GH, GM, GW, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, 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, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: AIRBORNE CONTAMINANT INDICATOR



(57) Abstract

An indicator system (18) provides a visual indication of the cumulative level of an airborne contaminant. An indicator has a transparent sheath (20) with support medium treated with acid and a pH indicator (22), as the contaminant is adsorbed, the color changes along the medium (24). The indicator system may be used with an adsorptive filter system to predict the life of adsorption bed assemblies. A sample flow is taken upstream of the adsorption beds and is calibrated with a flow meter and valve. By monitoring the indicator, an accurate prediction of adsorption bed life may be made.