

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 January 2006 (12.01.2006)

PCT

(10) International Publication Number
WO 2006/003382 A1

(51) International Patent Classification⁷: **B01D 53/32**,
53/66, 53/86, A61L 9/22

(21) International Application Number:
PCT/GB2005/002531

(22) International Filing Date: 29 June 2005 (29.06.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0414602.3 30 June 2004 (30.06.2004) GB

(71) Applicant and

(72) Inventor: **MOLE, Alan** [GB/GB]; Laburnum Cottage,
Station Road, Eckington, Pershore, Worcestershire WR10
3BB (GB).

(74) Agent: **MARKS & CLERK**; 27 Imperial Square, Chel-
tenham, Gloucestershire GL50 1RQ (GB).

(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, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW.

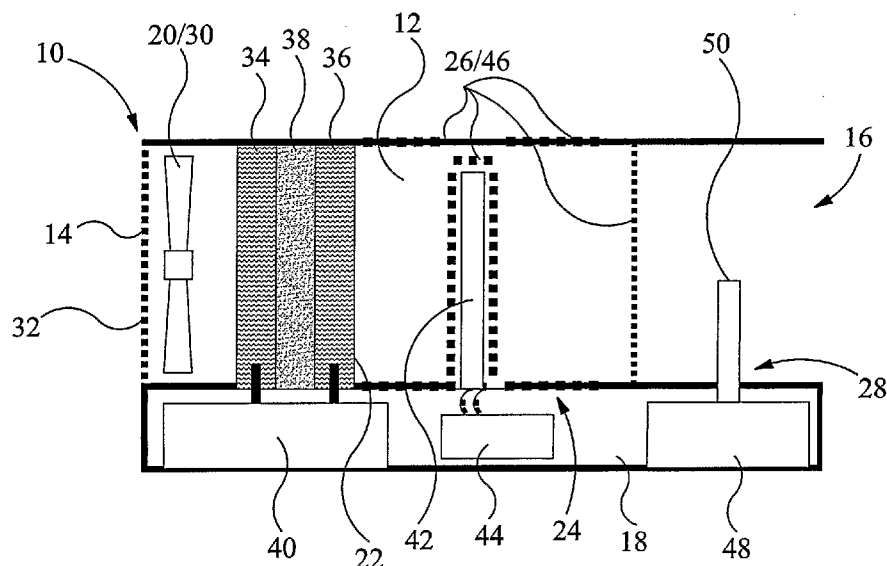
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, 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).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: AIR DECONTAMINATION DEVICE AND METHOD



(57) Abstract: An air decontamination device comprises an air stream generator (20), a nonthermal plasma filter (22), an ultraviolet radiation emitting device (24), an ozone catalysing device (26), and a hydrocarbon emitter (28). The air stream generator (20) generates and directs an air stream through or across the non-thermal plasma filter (22), the UV radiation emitting device (24), the ozone catalysing device (26), and the hydrocarbon emitter (28). The plasma filter (22) produces free radicals by which contaminants in the air stream are neutralised. The UV radiation emitting device (24) breaks down ozone in the air stream, catalysed by the ozone catalysing device (26). The hydrocarbon emitter (28) discharges an aromatic hydrocarbon into the air stream to preferentially react with residual ozone so that the air stream becomes suitable for human exposure. A method is also provided.