

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
26 January 2023 (26.01.2023)



(10) International Publication Number
WO 2023/002157 A1

(51) International Patent Classification:

B03C 3/16 (2006.01) *B03C 3/86* (2006.01)
B03C 3/49 (2006.01) *B03C 3/88* (2006.01)
B03C 3/74 (2006.01)

(72) Inventors: **HANN, James**; Edwards Limited, Kenn Road, Clevedon Somerset BS21 6TH (GB). **SEELEY, Andrew James**; Edwards Limited, Kenn Business Park, Kenn Road, Clevedon Somerset BS21 6TH (GB).

(21) International Application Number:

PCT/GB2022/051792

(74) Agent: **NORTON, Ian**; Edwards Limited, Innovation Drive, Burgess Hill Sussex RH15 9TW (GB).

(22) International Filing Date:

12 July 2022 (12.07.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2110579.6 22 July 2021 (22.07.2021) GB

(71) Applicant: **EDWARDS LIMITED** [GB/GB]; Innovation Drive, Burgess Hill Sussex RH15 9TW (GB).

(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,

(54) Title: ELECTROSTATIC PRECIPITATOR CLEANING

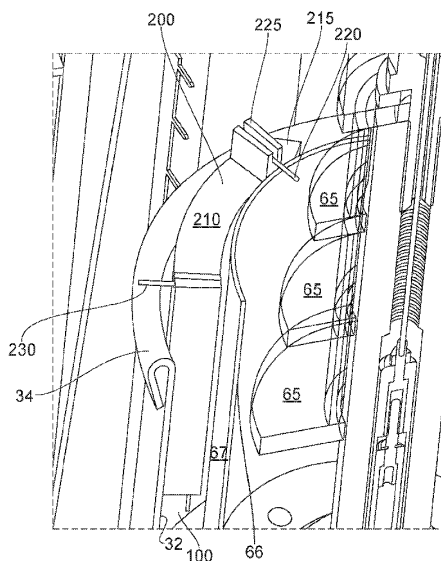


FIG. 6

(57) Abstract: Aspects and embodiments provide a wet electrostatic precipitator comprising an ancillary component cleaning device, the cleaning device comprising: a cleaning assembly moveably supportable within an electrostatic precipitator; the cleaning assembly comprising a scraper; the scraper being configurable to abut an ancillary component of the electrostatic precipitator, such that movement of the cleaning assembly within the electrostatic precipitator causes movement of the scraper with respect to the ancillary component and wherein the ancillary component comprises a component of a separation assembly provided in the wet electrostatic precipitator to maintain electrical isolation between the discharge and collection electrodes. Also provided is a method of cleaning an ancillary component of a wet electrostatic precipitator. Arrangements recognise that it can be helpful to maintain overall efficient operation of some electrostatic precipitator devices, by clearing ancillary components (ie components other than the discharge and collection electrodes)

WO 2023/002157 A1

[Continued on next page]

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

which are earthed or electrically neutral. Such ancillary components typically cannot be rapped, air blasted or washed due to their close proximity to high voltage components or other essential primary components of the electrostatic precipitator. Arrangements may provide a mechanism to enable use of minimal separation distances between ancillary components and those at voltage by maintaining those separation distances through effective agglomerate clearing. Effective agglomeration clearing can therefore enable a reduction, in real operating conditions, of an overall footprint of an electrostatic precipitator device.