

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

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
16 August 2018 (16.08.2018)



(10) International Publication Number  
**WO 2018/145706 A1**

(51) International Patent Classification:

G01N 21/3504 (2014.01) F26B 3/12 (2006.01)  
G01N 33/00 (2006.01) F26B 25/00 (2006.01)  
G01N 21/85 (2006.01) G08B 21/16 (2006.01)

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(21) International Application Number:

PCT/DK2017/050033

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(22) International Filing Date:

09 February 2017 (09.02.2017)

(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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, 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,

(25) Filing Language:

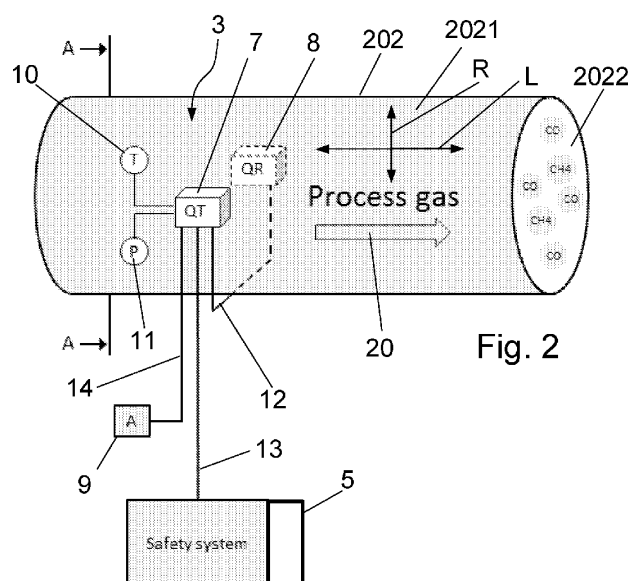
English

(26) Publication Language:

English

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(54) Title: EARLY DETECTION OF SMOLDERING POWDERS IN POWDER DRYING SYSTEMS COMPRISING A CO GAS DETECTION SYSTEM



(57) Abstract: The invention concerns a powder drying system (1 ) comprising a carbon monoxide (CO) gas detection system adapted for detection of CO gas from smoldering powders in a powder drying system component, such as a spray dryer chamber (200), a fluid bed (500) or a bag filter (400), which CO gas detection system comprises at least one inlet CO gas detector (3) arranged on at least one gas inlet of a powder drying system component such as to provide at least one inlet CO gas content measurement, at least one outlet CO gas detector (3) arranged on at least one gas outlet of a powder drying system component such as to provide at least one outlet CO gas content measurement, and an analyzing unit (5) adapted for receiving the at least one inlet CO gas content measurement, receiving the at least one outlet CO gas content measurement and comparing the sum of the at least one inlet CO gas content measurement and the sum of the at least one outlet CO gas content measurement while compensating for dilution, mixing, and time delay of the outlet

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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, 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))

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CO gas content measurement. At least the at least one outlet CO gas detector (3) comprises an IR laser transmitter and is adapted for detecting over a measurement volume (6) and is arranged on the at least one gas outlet in such a way that said measurement volume (6) extends directly inside a gas flow (20) in said at least one gas outlet.