IPOS COPY
IPER + ANNEXES
+ REPLACEMENT
SHEET

9903672-5

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : C10B 7/06, 47/40

A1

(11) International Publication Number: WO 98/34996

(43) International Publication Date: 13 August 1998 (13.08.98)

(21) International Application Number: PCT/IB98/00224

(22) International Filing Date: 30 January 1998 (30.01.98)

(30) Priority Data:
2,196,841 5 February 1997 (05.02.97) CA

(71) Applicant: ECOVAC PYROCYCLING TECHNOLOGIES INC. [BB/BB]; Building 1, 2nd floor, Chelston Park, S. Michael (BB).

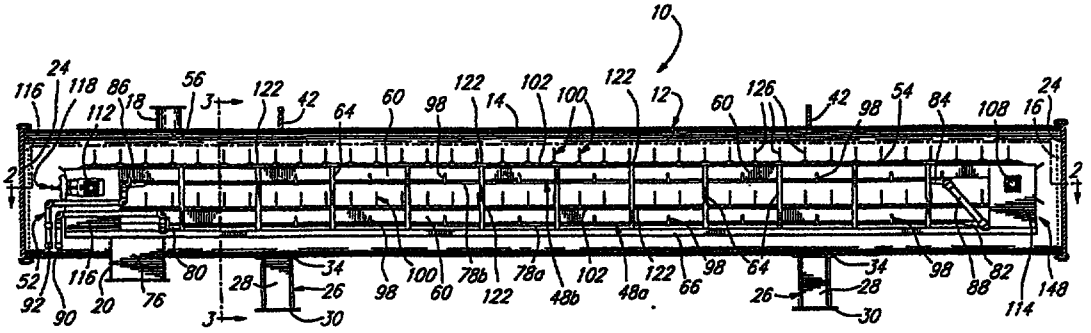
(72) Inventors: ROY, Christian; 1560, avenue du Parc-Beauvoir, Sillery, Quebec G1T 2M4 (CA). BLANCHETTE, Daniel; 72 place Bon-Air, Breakeyville, Quebec G0S 1E0 (CA). DE CAUMIA, Bruno; 76 McKee Street, Stoneham, Quebec G0A 4P0 (CA).

(74) Agents: CARRIER, Robert et al.; Swabey Ogilvy Renault, Suite 1600, 1981 McGill College Avenue, Montreal, Quebec H3A 2Y3 (CA).

(81) Designated States: AU, BR, CN, CU, CZ, ID, JP, KR, MX, NO, NZ, PL, RU, SG, UA, VN, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.

(54) Title: HORIZONTAL MOVING BED REACTOR



(57) Abstract

A horizontal moving bed reactor for heat treating particulate material comprises a housing having an inlet for admitting therein the particulate material to be heat treated and an outlet for discharging the heat treated material, at least one tray disposed horizontally inside the housing between the inlet and outlet and having a support surface for supporting a bed of the particulate material, a heating system for heating the bed of particulate material on the support surface, and a conveyor system for moving the bed of particulate material while being heated along a predetermined direction on the support surface. The conveyor system includes a plurality of horizontally spaced-apart rake members extending across the support surface transversely of the predetermined direction and each having a plurality of spaced-apart fingers in sliding contact with the support surface. The rake members are moved to displace with the fingers the particulate material along the predetermined direction, the fingers of any one of the rake members being misaligned with the fingers of any other one of the rake members and being spaced relative to one another such that the fingers rake across substantially the entire support surface of the tray and constantly stir the particulate material while displacing same, thereby constantly exposing fresh surfaces of the particulate material to heat and increasing heat transfer in the bed. The horizontal moving bed reactor of the invention can be used not only for pyrolyzing particulate material, but also for drying particulate material and carrying out various reactions requiring heat.