



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C01G 23/07, F28F 1/40	A1	(11) International Publication Number: WO 96/17804 (43) International Publication Date: 13 June 1996 (13.06.96)
(21) International Application Number: PCT/US95/15159 (22) International Filing Date: 21 November 1995 (21.11.95) (30) Priority Data: ✓ 08/350,350 6 December 1994 (06.12.94) US (71) Applicant: E.I. DU PONT DE NEMOURS AND COMPANY ✓ [US/US]; 1007 Market Street, Wilmington, DE 19898 (US). (72) Inventors: GONZALEZ, Raul, Alberto; 206 Dallas Avenue, Newark, DE 19711-5169 (US). MUSICK, Charles, David; 321 East Main Street, Waverly, TN 37185-2125 (US). (74) Agents: GOULD, David, J. et al.; E.I. du Pont de Nemours and Company, Legal/Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).	(81) Designated States: AU, CA, JP, MX, (SG), European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>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.</i>	

(54) Title: USING AN IMPROVED EXPANSION SECTION AS THE INLET TO THE FLUE IN A TITANIUM DIOXIDE PROCESS

(57) Abstract

In the process for producing titanium dioxide by (a) reacting titanium tetrachloride and oxygen in the vapor phase in a reactor to produce titanium dioxide, and (b) subsequently cooling the titanium dioxide by passing it through a flue consisting of a conventional flue, a finned flue, or combinations thereof, wherein the outlet for the reactor in step (a) has a smaller interior diameter than the inlet for the flue in step (b), the improvement comprising passing the titanium dioxide through a truncated cone-shaped finned flue conduit, the smaller diameter end of the truncated cone-shaped finned flue conduit receiving titanium dioxide produced by the reactor and the larger diameter end of the truncated cone-shaped finned flue conduit discharging titanium dioxide that is received by the flue.

