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08/382,689 **2 February 1995 (02.02.95)** **US**(71) Applicant: **MINNESOTA MINING AND MANUFACTURING COMPANY [US/US]; 3M Center, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).**(72) Inventor: **LEONARD, William, K.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US).**(74) Agents: **LEVINE, Charles, D. et al.; Minnesota Mining and Manufacturing Company, Office of Intellectual Property Counsel, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).**(81) Designated States: **AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).****Published**
With international search report.(54) Title: **METHOD AND APPARATUS FOR COATING SUBSTRATES USING AN AIR KNIFE**

(57) Abstract

The method of coating a substrate (32, 102) with plurality of layers of coatings includes moving the substrate along a path through the coating station including a coating die (10, 110). A composite layer (48, 118) is formed of first and second coating fluids (34, 36; 104, 86). The substrate (32, 102) contacts the flowing composite layer to interpose the first coating fluid (34, 104) between the substrate (32, 102) and the second coating (36, 86). The composite layer is doctored with a gas (52, 122) from a gas knife (54, 124) to remove some portion of the composite layer from the substrate.

