



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : H05H 1/24, C23C 16/26, H01J 7/24	A1	(11) International Publication Number: WO 00/47023 (43) International Publication Date: 10 August 2000 (10.08.00)
(21) International Application Number: PCT/US00/03004 (22) International Filing Date: 2 February 2000 (02.02.00) (30) Priority Data: 09/243,913 3 February 1999 (03.02.99) US (71) Applicant: DIAMONEX, INCORPORATED [US/US]; 7331 William Avenue, Bldg. #24, Suite 900, Allentown, PA 18106 (US). (72) Inventors: MAHONEY, Leonard, Joseph; 3831 Artic Fox Drive, Fort Collins, CO 80525 (US). BROWN, David, Ward; 520 West Mount Vernon Street, Lansdale, PA 18034 (US). PETRMICHL, Rudolph, Hugo; 5422 West Valley Road, Center Valley, PA 18034 (US). (74) Agents: DANNELLS, Richard, A., Jr et al.; Coudert Brothers, Four Embarcadero Center, Suite 3300, San Francisco, CA 94111 (US).		(81) Designated States: CA, JP, KR, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, 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: METHOD AND APPARATUS FOR DEPOSITION OF DIAMOND-LIKE CARBON COATINGS FROM A HALL-CURRENT ION SOURCE (57) Abstract A direct ion beam deposition method and apparatus are disclosed in which a substrate (120) is disposed within a vacuum chamber (110), a coating of DLC or Si-DLC at a high deposition rate using a Hall-Current ion source (100) is deposited on the substrate, the Hall-Current ion source is operating on carbon-containing or carbon-containing and silicon-containing precursor gases, respectively, and has an anode discharge region (70) which is insulatively sealed to prevent discharge from migrating into the interior of the ion source.		