PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61K 9/00 — A2

(11) International Publication Number: WO 99/62495

(43) International Publication Date: 9 December 1999 (09.12.99)

(21) International Application Number: PCT/US99/11180

(22) International Filing Date: 19 May 1999 (19.05.99)

(30) Priority Data:

60/087,929	4 June 1998 (04.06.98)	US
09/312,434	14 May 1999 (14.05.99)	US

(71) Applicant: INHALE THERAPEUTIC SYSTEMS [US/US]; 150 Industrial Road, San Carlos, CA 94070 (US).

(72) Inventors: BURR, John, D.; 1135 Cedarwood Way, Redwood City, CA 94061 (US). SMITH, Adrian, E.; 2803 Alhambra Drive, Belmont, CA 94002 (US). HALL, Randy, K.; 717 Sylvan Avenue, Mountain View, CA 94041 (US). SNYDER, Herm; 501 Daleview, Belmont, CA 94002 (US). SCHULER, Carlos; 10344 Denison Avenue, Cupertino, CA 95014 (US). AXFORD, George, S.; 2727 Edison Street #116, San Mateo, CA 94403 (US). RAY, Charles; 582 Cutwater Lane, Foster City, CA 94404 (US).

(74) Agents: HESLIN, James, M. et al.; Townsend and Townsend and Crew LLP, 8th floor, Two Embarcadero Center, San Francisco, CA 94111-3834 (US).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

Without international search report and to be republished upon receipt of that report.

(54) Title: DRY POWDER DISPERSING APPARATUS AND METHODS FOR THEIR USE

(57) Abstract

The invention provides various apparatus and methods for aerosolizing a powdered medicament. In one exemplary embodiment, an apparatus includes a pressurization cylinder, and a piston which is slidable within the cylinder to pressurize a gas. A handle is coupled to the piston and is movable between an extended position and a home position to pressurize the gas. An aerosolizing mechanism is included and is configured to aerosolize a powdered medicament that is held within a receptacle with pressurized gas from the cylinder. A carriage assembly is included to receive the receptacle and to couple the receptacle to the aerosolizing mechanism. A first and a second interlock are operably engageable with the carriage assembly to prevent coupling of the receptacle with the aerosolization mechanism. The first interlock is released to allow movement of the carriage upon movement of the handle to the extended position. The second interlock remains engaged if the receptacle is only partially inserted into the carriage assembly.

