

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 May 2003 (30.05.2003)

PCT

(10) International Publication Number
WO 03/043525 A2

- (51) International Patent Classification⁷: **A61D**
- (21) International Application Number: PCT/US02/37311
- (22) International Filing Date:
14 November 2002 (14.11.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/331,468 16 November 2001 (16.11.2001) US
- (71) Applicant (for all designated States except US): **MERIAL LIMITED** [US/US]; 3239 Satellite Blvd., Duluth, GA 30096 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **JOHNSTON, Joseph, H.** [US/US]; 5472 Concord Circle, Gainesville, GA 30507 (US). **LUKE, Roger** [US/US]; 3078 Sanibel Drive, Stone Mountain, GA 30087 (US). **PRUITT, Robert** [US/US]; 3756 Brambievine Circle, Lithonia, GA 30038 (US). **LUST, ERIC** [US/US]; 19 Fenwick Court, Grayson, GA 30017 (US). **MCHEHENRY, David, C.** [US/US]; 3656 Juhan Road, Stone Mountain, GA 30087 (US). **PHILLIPPI, Charles** [US/US]; 3230 Partain Road, Monroe, GA 30656 (US).
- (74) Agent: **JARECKI-BLACK, Judy, C.**; 3239 Satellite Blvd., Duluth, GA 30096 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: AUTOMATIC POULTRY INJECTION DELIVERY APPARATUS

(57) **Abstract:** The present invention provides systems for the injection delivery of at least two fluid doses to a small bird by penetrating the skin of the recipient bird with at least two injection needles. It is then possible to simultaneously inject drugs, or other fluid vaccines that do not mix well or whose mixture would be detrimental to the stability or efficacy of the active ingredients therein. The present invention provides a novel injection needle support for connecting the injection needles to dose distributors and fluid supply containers while maintaining the injection ends of the injection needles in a substantially parallel arrangement. The injection needle support typically is attached to a carrier connected to an actuator, an actuator power source and a switch mechanism wherein the actuator, when activated, can reciprocally move the carrier and injection support toward and away from an injection position. The injection delivery system may further include one or more dose distributors and fluid supply containers for delivering fluid doses to the injection needles for injection into a recipient bird held against an aperture in a retaining plate.



WO 03/043525 A2