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(71) Applicant: **MANNKIND CORPORATION** [US/US]; 28903 North Avenue Paine, Valencia, CA 91355 (US).

(72) Inventors: **SMUTNEY, Chad, C.**; 1501 Bunker Hill Rd., Watertown, CT 06795 (US). **ADAMO, Benoit**; 255 West Street, Apt. 2G, Mount Kisco, NY 10549 (US). **LAURENZI, Brendan, F.**; 130 Richardson Dr., Middlebury, CT 06762 (US). **KINSEY, P., Spencer**; 6 Quail Hollow Lane, Sandy Hook, CT 06482 (US).

(74) Agents: **CULLMAN, Louis, C.** et al.; K&L Gates LLP, 1 Park Plaza, Twelfth Floor, Irvine, CA 92604 (US).

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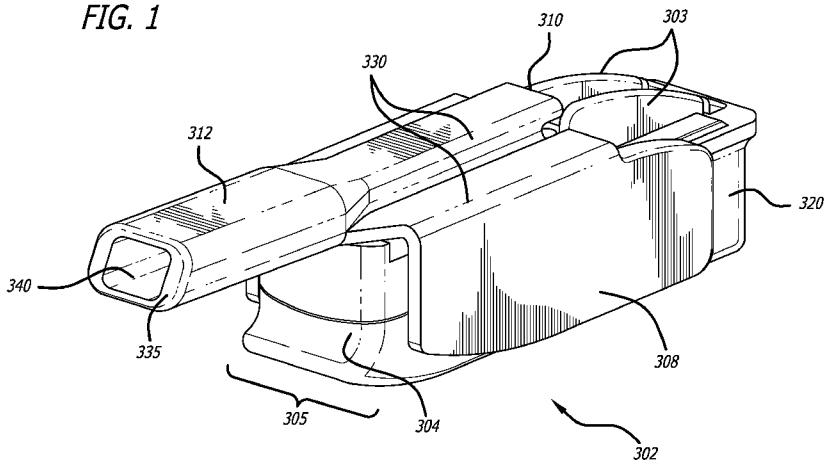
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(54) Title: DRY POWDER DRUG DELIVERY SYSTEMS AND METHODS

FIG. 1



(57) Abstract: A pulmonary drug delivery system is disclosed, including a breath-powered, dry powder inhaler, with or without a cartridge for delivering a dry powder formulation. The inhaler and cartridge can be provided with a drug delivery formulation comprising, for example, a diketopiperazine and an active ingredient, including, small organic molecules, peptides and proteins, including, hormones such as insulin and glucagon-like peptide 1 for the treatment of disease and disorders, for example, diseases and disorders, including endocrine disease such as diabetes and/or obesity.

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