

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
23 April 2020 (23.04.2020)



(10) International Publication Number
WO 2020/081479 A1

(51) International Patent Classification:
A61M 5/20 (2006.01) *A61M 5/315* (2006.01)

(21) International Application Number:
PCT/US2019/056174

(22) International Filing Date:
15 October 2019 (15.10.2019)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/745,813 15 October 2018 (15.10.2018) US

(71) Applicant: **AMGEN INC.** [US/US]; One Amgen Center Drive, Thousand Oaks, CA 91320-1799 (US).

(72) Inventors: **MELANDER, Matias**; c/o Amgen Inc., One Amgen Center Drive, Mail Stop 28-5-A, Thousand Oaks, CA 91320-1799 (US). **PEDERSEN, Jakob, Halkjaer**; c/o Amgen Inc., One Amgen Center Drive, Mail Stop 28-5-A, Thousand Oaks, CA 91320-1799 (US). **PLAMBECH, Christian**; c/o Amgen Inc., One Amgen Center Drive, Mail Stop 28-5-A, Thousand Oaks, CA 91320-1799 (US). **MCCULLOUGH, Adam, B.**; c/o Amgen Inc., One Amgen Center Drive, Mail Stop 28-5-A, Thousand Oaks, CA 91320-1799 (US). **JAZAYERI, Julian**; c/o Amgen Inc.,

One Amgen Center Drive, Mail Stop 28-5-A, Thousand Oaks, CA 91320-1799 (US).

(74) Agent: **FURMANEK, Michael, P.**; Marshall, Gerstein & Borun LLP, 233 S. Wacker Drive, 6300 Willis Tower, Chicago, IL 60606-6357 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,

(54) Title: DRUG DELIVERY DEVICE HAVING DAMPING MECHANISM

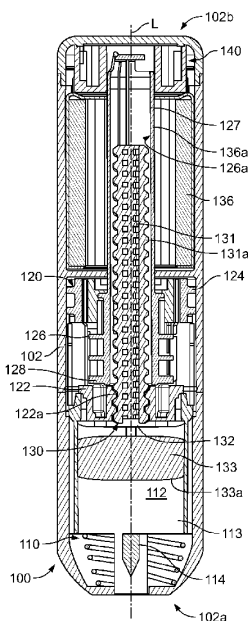


Fig. 1

(57) Abstract: A drug delivery device includes a housing defining a shell having a proximal and a distal end, a needle assembly at least partially disposed within the housing at the proximal end, a drive assembly at least partially disposed within the housing, and a damper mechanism at least partially disposed within the housing adjacent to the distal end. The housing further defines a longitudinal axis extending between the proximal end and the distal end. The needle assembly includes a syringe barrel containing a medicament and a needle or a cannula. The drive assembly is operably coupled to the needle assembly to urge the medicament through the needle or cannula. The damper mechanism is operably coupled to the drive assembly and the housing. Upon activating the drive assembly, the damper mechanism dampens an effect thereof.

[Continued on next page]

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*