



(51) International Patent Classification:

B65B 3/10 (2006.01) *B65B 3/00* (2006.01)
B65B 1/40 (2006.01) *G01F 23/00* (2006.01)
B65B 37/14 (2006.01) *G01F 13/00* (2006.01)
B65B 59/04 (2006.01)

(21) International Application Number:

PCT/EP2021/053435

(22) International Filing Date:

12 February 2021 (12.02.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20157389.6 14 February 2020 (14.02.2020) EP

(71) Applicant (for all designated States except US): **F. HOFFMANN-LA ROCHE AG** [CH/CH]; Grenzacherstrasse 124, 4070 Basel (CH).

(71) Applicant (for US only): **HOFFMANN-LA ROCHE INC.** [US/US]; Great Notch, 150 Clove Road 8th Floor, Little Falls, New Jersey 07424 (US).

(72) Inventors: **CATALDO, Pasquale**; c/o Roche Diagnostics GmbH, Sandhofer Strasse 116, 68305 Mannheim (DE).
HEINLEIN, Harald; c/o Roche Diagnostics GmbH, Sandhofer Strasse 116, 68305 Mannheim (DE).

(74) Agent: **ALTMANN STÖSSEL DICK PATENTANWÄLTE PARTG MBB**; Dr. Matthias Stöbel, Dudenstraße 46, 68167 Mannheim (DE).

(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,

(54) Title: TIME-PRESSURE-FILLING SYSTEM FOR LIQUID DRUG PRODUCTS

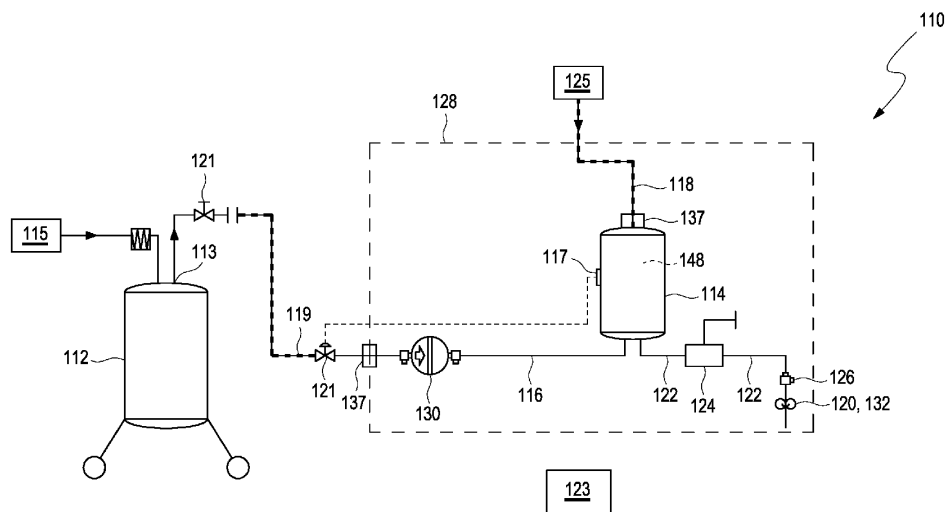


Fig. 1

(57) Abstract: A time-pressure-filling system (110) for filling at least one liquid drug product into containers (111) is disclosed. The time-pressure-filling system (110) comprises: A. at least one storage vessel (112) for storing the liquid drug product; B. at least one surge vessel (114), wherein the surge vessel (114) is configured for single use, wherein the surge vessel (114) is at least partially made of at least one rigid plastic material; C. at least one supply line (116) for feeding the liquid drug product from the storage vessel (112) into the surge vessel (114) in a pressurized fashion; D. at least one pressure control line (118) for applying a control pressure to the surge vessel (114); E. at least one dispenser (120) for dispensing the liquid drug product into the containers (111); F. at least one dispensing line (122) connecting the surge vessel (114) to the dispenser (120); G. at least one pressure sensor (124) for determining a pressure in the dispensing line (122); and H. at least one valve (126) for controlling a flow of the liquid drug product through the dispensing line (122).

[Continued on next page]

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, IT, 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, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*