



(51) International Patent Classification:
F04B 1/16 (2006.01) *F04B 9/04* (2006.01)

(21) International Application Number:
PCT/US2009/057153

(22) International Filing Date:
16 September 2009 (16.09.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/098,102 18 September 2008 (18.09.2008) US

(71) Applicant (for all designated States except US): **CARRIER CORPORATION** [US/US]; Carrier World Headquarters, One Carrier Place, Farmington, Connecticut 06034 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **FLANIGAN, Paul J.** [US/US]; 8660 Backstretch Path, Cicero, New York 13039 (US).

(74) Agents: **BUCK, David** et al.; Kinney & Lange, P.A., Kinney & Lange Building, 312 South Third Street, Minneapolis, MN 55415-1002 (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, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: MULTI-STAGE RECIPROCATING COMPRESSOR

(57) Abstract: A multi-stage reciprocating compressor includes a cylinder block and a cylinder head. The cylinder block defines a low stage cylinder and a high stage cylinder. The cylinder head is secured to the cylinder block overlying the low and high stage cylinders. The cylinder head defines a mid-stage plenum which is in fluid communication with the low stage cylinder and the high stage cylinder for communicating a working fluid discharged from the low stage cylinder to the high stage cylinder.

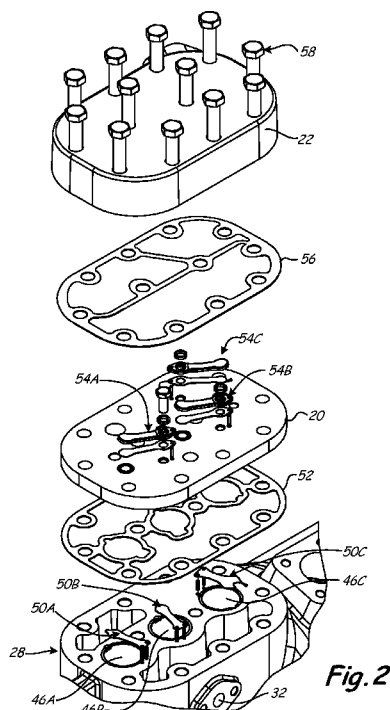


Fig. 2



Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *without international search report and to be republished
upon receipt of that report (Rule 48.2(g))*