

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 January 2008 (17.01.2008)

PCT

(10) International Publication Number
WO 2008/008308 A2

(51) International Patent Classification:
G05D 16/10 (2006.01)

(21) International Application Number:
PCT/US2007/015665

(22) International Filing Date: 6 July 2007 (06.07.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/485,102 12 July 2006 (12.07.2006) US

(71) Applicant (for all designated States except US):
CAMERON INTERNATIONAL CORPORATION
[US/US]; 1333 West Loop South, Suite 1700, Houston,
TX 77027 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BELL, Thomas,
M.** [US/US]; 10107 Moorberry Lane, Houston, TX 77080

(US). **WARD, Scott, D.** [US/US]; 9011 Belle Glen,
Houston, TX 77099 (US).

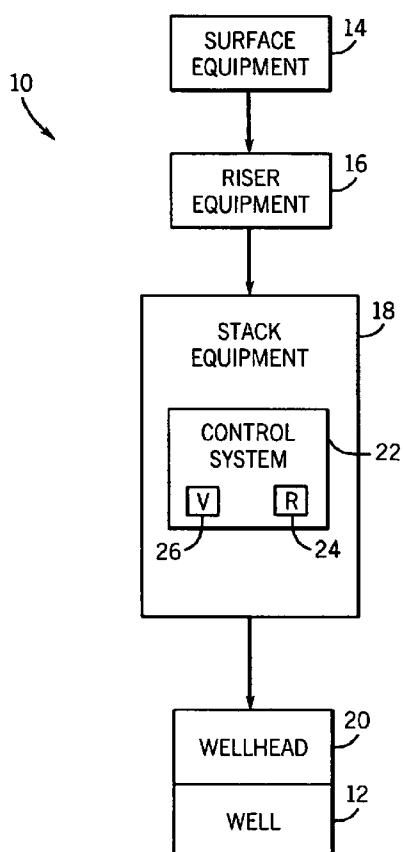
(74) Agent: **VYAS, Manish**; Cameron International Corpora-
tion, P.O. Box 1212, Houston, TX 77251-1212 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH,
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, PG, PH, PL,
PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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,

[Continued on next page]

(54) Title: DEVICE FOR REGULATING PRESSURE



(57) Abstract: A pressure regulator is provided. In one embodiment, the pressure regulator includes a body having an internal cavity for receiving a pressurized medium and inlet and outlet ports that enable a pressurized medium to enter the internal cavity at a first pressure and exit at a second pressure. The exemplary pressure regulator also includes a control piston disposed within the internal cavity that is configured to move in response to a change in pressure within the internal cavity. The pressure regulator of this embodiment also includes a damping feature within the internal cavity that is configured to oppose the movement of the control piston. Other embodiments of pressure regulators and systems are also provided.



FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL,
PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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.

Published:

- *without international search report and to be republished upon receipt of that report*