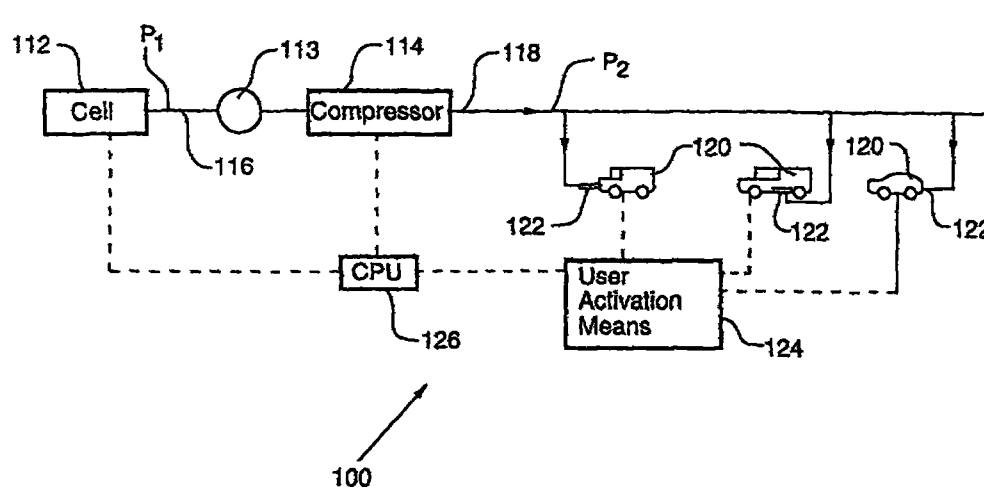




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(21) International Application Number: PCT/CA00/00487 (22) International Filing Date: 28 April 2000 (28.04.00) (30) Priority Data: 2,271,450 12 May 1999 (12.05.99) CA (71) Applicant: STUART ENERGY SYSTEMS CORPORATION [CA/CA]; 122 The West Mall, Toronto, Ontario M9C 1B9 (CA). (72) Inventors: FAIRLIE, Matthew, J.; 122 The West Mall, Toronto, Ontario M9C 1B9 (CA). STEWART, William, J.; 122 The West Mall, Toronto, Ontario M9C 1B9 (CA). STUART, Andrew, T., B.; 122 The West Mall, Toronto, Ontario M9C 1B9 (CA). THORPE, Steven, J.; 122 The West Mall, Toronto, Ontario M9C 1B9 (CA). DONG, Charlie; 122 The West Mall, Toronto, Ontario M9C 1B9 (CA). (74) Agent: SMITH, LYONS; Suite 5800, Scotia Plaza, 40 King Street West, Toronto, Ontario M5H 3Z7 (CA).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.
(54) Title: HYDROGEN FUEL REPLENISHMENT PROCESS AND SYSTEM  (57) Abstract A hydrogen replenishment system for providing hydrogen to a hydrogen-receiving apparatus, the system comprising: (i) an electrolytic cell for providing source hydrogen; (ii) a compressor means for providing outlet hydrogen at an outlet pressure; (iii) means for feeding the source hydrogen to the compressor means; (iv) means for feeding the outlet hydrogen to the hydrogen-receiving apparatus; (v) central processing unit means for controlling the cell and the compressor; and (vi) user activation means for operably activating the central processing unit means. The invention provides a practical user interface in the treatment of data provided, computed, measured and stored, to offer a convenient, essentially self-contained, hydrogen fuel replenishment system for vehicles based on water electrolysis. The apparatus has virtually no stored hydrogen and provides pressurized hydrogen on the demand of a user. The system is preferably operative at times of off-peak electrical supply, with electricity and water being substantially the only feedstock.		