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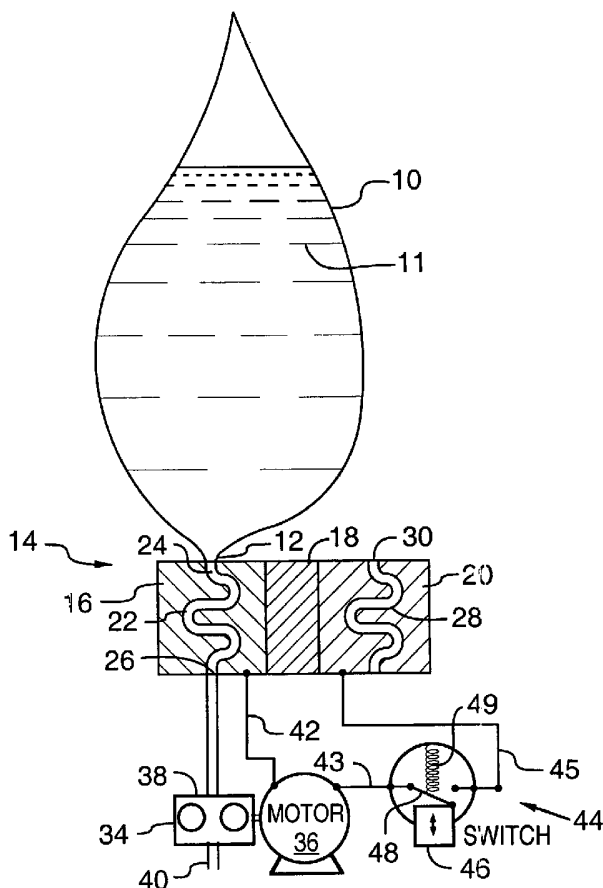
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| <p><b>(51) International Patent Classification<sup>7</sup>:</b> C25B 15/08, H01M 8/04</p> <p><b>(21) International Application Number:</b> PCT/CA2003/000027</p> <p><b>(22) International Filing Date:</b> 14 January 2003 (14.01.2003)</p> <p><b>(25) Filing Language:</b> English</p> <p><b>(26) Publication Language:</b> English</p> <p><b>(30) Priority Data:</b><br/>10/051,750      18 January 2002 (18.01.2002)      US</p> <p><b>(71) Applicant and</b></p> <p><b>(72) Inventor:</b> OPHARDT, Heiner [DE/CA]; 3931 Vineland Crescent, Vineland, Ontario L0R 2C0 (CA).</p> <p><b>(74) Agent:</b> RICHES, McKENZY &amp; HERBERT LLP; 2 Bloor Street East, Suite 1800, Toronto, Ontario M4W 3J5 (CA).</p> | <p><b>(81) Designated States (<i>national</i>):</b> AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.</p> <p><b>(84) Designated States (<i>regional</i>):</b> ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).</p> <p><b>Published:</b><br/>— <i>with international search report</i></p> |
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[Continued on next page]

- (54) Title:** COMBINATION LIQUID DISPENSER AND ELECTROCHEMICAL CELL



**(57) Abstract:** In combination, a fluid dispenser and an electrochemical cell to produce electric energy by chemical conversion of the fluid to be dispensed. The electrical energy produced is preferably used to operate a device associated with the dispensing of the fluid as, for example, in operation of an electric pump-to-pump fluid from the reservoir. The fluid preferably is dispensed for use after dispensing in some other purpose than as a source for electrochemical energy to dispense fluid from the reservoir. For example, preferred fluid containing alcohol compounds are for use in cleaning and disinfecting.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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**(88) Date of publication of the international search report:**

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## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/CA 03/00027

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C25B15/08 H01M8/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C25B H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 997 821 A (JOSHI ASHOK V) 7 December 1999 (1999-12-07) column 3, lines 46-51; claims 1-3; figure 2 -----	1-29
A	US 5 593 552 A (GORDON JOHN H ET AL) 14 January 1997 (1997-01-14) column 12, line 66 - column 13, line 12; figure 7 -----	1-29
A	EP 0 583 497 A (ROPPOLO MICHAEL A III) 23 February 1994 (1994-02-23) claims 1,11,16; figures 2-4 -----	1-29
A	US 5 645 404 A (ZELENAK JOHN M) 8 July 1997 (1997-07-08) column 6, line 5 - column 7, line 22; claims 1,8,16; figures 2,5,6 ----- -/--	1-29

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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\*Z\* document member of the same patent family

Date of the actual completion of the international search

13 October 2004

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25/10/2004

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International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 836 482 A (OPHARDT HEINER ET AL)  17 November 1998 (1998-11-17)  cited in the application  claims 1,4; figure 2  -----</p>	1-29

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Information on patent family members

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