

PATENT ASSIGNMENT

Electronic Version v1.1  
Stylesheet Version v1.1

SUBMISSION TYPE:

NEW ASSIGNMENT

NATURE OF CONVEYANCE:

SECURITY AGREEMENT

CONVEYING PARTY DATA

Name	Execution Date
H2 Pump LLC	11/03/2009

RECEIVING PARTY DATA

Name:	ZZ Acquisitions, LLC
Street Address:	4838 Jenkins Avenue
City:	North Charleston
State/Country:	SOUTH CAROLINA
Postal Code:	29405

PROPERTY NUMBERS Total: 12

Property Type	Number
Application Number:	11627955
Application Number:	11696179
Application Number:	11737730
Application Number:	11737733
Application Number:	11737737
Application Number:	11743612
Application Number:	11833229
Application Number:	11969868
Application Number:	61164093
Application Number:	61164111
Application Number:	61164121
Application Number:	61204022

CORRESPONDENCE DATA

Fax Number: (704)927-0485

*Correspondence will be sent via US Mail when the fax attempt is unsuccessful.*

501017311

PATENT  
REEL: 023528 FRAME: 0385

CH \$480.00 11627955

Phone: 704-927-0400  
Email: bhammer@hammerpatent.com  
Correspondent Name: Robert H. Hammer III  
Address Line 1: 3125 Springbank Lane, Suite G  
Address Line 4: Charlotte, NORTH CAROLINA 28226

ATTORNEY DOCKET NUMBER:	2003.31
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NAME OF SUBMITTER:	Robert H. Hammer III
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Total Attachments: 4 source=SecurityAgreement#page1.tif source=SecurityAgreement#page2.tif source=SecurityAgreement#page3.tif source=SecurityAgreement#page4.tif
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**COLLATERAL ASSIGNMENT AGREEMENT – INTELLECTUAL PROPERTY**

THIS COLLATERAL ASSIGNMENT AGREEMENT – INTELLECTUAL PROPERTY (“**Agreement**”) is made as of this 3rd day of November, 2009, by and among H2 Pump LLC, a Delaware limited liability company (the “**Borrower**”) and ZZ Acquisitions, LLC, a Delaware limited liability company (“**Lender**”).

WHEREAS, Borrower makes this Agreement for the purpose of securing the payment and performance of all obligations of Borrower arising (a) under that certain Membership Interest Purchase and Loan Agreement (the “**Loan Agreement**”) dated of even date herewith to which Borrower and Lender are parties, which provide for a Loan and extensions of credit and (b) under a Promissory Note dated of even date herewith given by Borrower in favor of Lender (the “**Note**”) and (c) under the other Loan Documents (collectively, the “**Secured Obligations**”). Capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the Loan Agreement.

In consideration of the Loan, Note or other advances or grants of credit (including any loan or advance or grant of credit by renewal or extension) hereafter made to the Borrower by the Lender and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:


1. **GRANT OF SECURITY INTEREST IN GENERAL INTANGIBLES.** As security for the payment of the Loan and other Secured Obligations now or hereafter made by the Lender to the Borrower hereunder, and as security for the payment or other satisfaction of all other liabilities owed by Borrower to Lender, the Borrower hereby grants to the Lender, a continuing first priority security interest in and to all patents, trademarks, applications and other general intangibles now owned or controlled by Borrower, including, but not limited to, those as set forth on the attached Exhibit A which is incorporated by this reference.
2. **PURPOSE AND FILING OF THIS AGREEMENT.** A purpose of this Agreement is to register the security interest herein with the United States Patent and Trademark Office (“**PTO**”) and other similar foreign offices. The party filing this Agreement with the PTO shall (a) complete accurately, and include as part of such filing, the PTO’s “Recordation Form Cover Sheet Patents Only” and shall indicate on such cover sheet that the nature of the conveyance is a “Security Agreement”; (b) provide the other party with copies of such filing; and (c) pay all applicable filing fees. The cost of the preparation and recording of all such documents shall be the sole expense of Borrower.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers thereunto duly authorized as of the date first above written.

WITNESSES:

BORROWER:

Dan Newman  
\_\_\_\_\_

By:   
Its: CEO

STATE OF New York )  
COUNTY OF Schenectady )

I, Yvette R. Wayman, Notary Public, do hereby certify that H2 Pump LLC, a Delaware limited liability company, by Glen Eisman, its CEO, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal this the 3 day of Nov, 2009.

**YUETTE R. WAYMAN**  
Notary Public, State of New York  
No. 01WA5055807  
Qualified In Montgomery County  
Comm. Expires: April 19, 2010

Yvette R. Wayman (SEAL)  
NOTARY PUBLIC FOR \_\_\_\_\_  
My Commission Expires: 4/19/2010

Donna B. Hartin  
Donna B. Hartin

LENDER: ZZ Acquisitions, LLC

By: M. Jerry Garfinkle

M. Jerry Garfinkle

Its: Senior Vice President

STATE OF South Carolina )  
COUNTY OF Charleston )

I, Donna B. Hartin, Notary Public, do hereby certify that ZZ Acquisitions, LLC, a Delaware limited liability company, by M. Jerry Garfinkle, its Senior Vice President, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal this the 3<sup>rd</sup> day of Nov, 2009.

Donna B. Hartin (SEAL)  
NOTARY PUBLIC FOR South Carolina  
My Commission Expires: 9-16-2014

**EXHIBIT "A"**

List of all patents, trademarks, and applications attached

Docket No.	Filing Date	Serial No.	Publication Date	Publication No.	Title	Case Description	Inventors
H2P-1-US	01/27/07	11/627955	3/23/2007	US 2007-0193883 A1	Apparatus and methods for electrochemical hydrogen manipulation	General sol gel PBI; polymeric acid support layers; polarity reversing	Benicewicz, Eisman
H2P-3-US	04/03/07	11/696179	10/4/2007	US 2007-0227908 A1	PERFORMANCE ENHANCEMENT VIA WATER MANAGEMENT IN ELECTROCHEMICAL CELLS	Hydration & water management for PBI cells	Benicewicz, Eisman (add Gasda & Ludlow), combine with case 18
H2P-4-US	04/19/07	11/737730	10/25/2007	US 2007-0246373 A1	INTEGRATED ELECTROCHEMICAL HYDROGEN SEPARATION SYSTEMS	Cells used in various valve applications.	Ludlow, Eisman
H2P-5-US	04/19/07	11/737733	10/25/2007	US 2007-0246363 A1	INTEGRATED ELECTROCHEMICAL HYDROGEN COMPRESSION SYSTEMS	Integrated systems with electrochemical pumps combined with mechanical pumps.	Ludlow, Eisman
H2P-7-US	04/19/07	11/737737	10/25/2007	US 2007-0246374 A1	PERFORMANCE MANAGEMENT FOR INTEGRATED HYDROGEN SEPARATION AND COMPRESSION SYSTEMS	H2 pump startup schemes	Gasda, Eisman
H2P-9-US	05/02/07	11/745612	5/29/2008	US 2008-0121532 A1	ROBUST VOLTAGE MANAGEMENT IN ELECTROCHEMICAL HYDROGEN CELLS	Passive voltage protection for cells	Gasda, Eisman
H2P-10-US	08/02/07	11/833,229			ELECTROCHEMICAL HYDROGEN PUMP WITH STANDBY MODE	H2 Pump systems with idle mode configurations	Benicewicz, Gasda, Ludlow, Eisman
H2P-20-US	1/4/08	11/959,868			Hydrogen Furnace System and Method	Pump used to manipulate the atmosphere in a furnace	Eisman
H2P-21-US Prov	27-Mar-09	61/164,093			ELECTROCHEMICAL HYDROGEN RECLAMATION SYSTEM	Hydrogen is electrochemically extracted in a gas stream, the hydrogen gas stream then enters a palladium separator.	Michael Gasda Glenn Eisman Robert Hirsch
H2P-22-US Prov	27-Mar-09	61/164,111			ELECTROCHEMICAL HYDROGEN PROCESSING CONTROL METHOD		Ludlow, Hirsch
H2P-23-US Prov	27-Mar-09	61/164,121			Process to Control Performance Degradation in a Hydrogen Recycling Device		Ludlow, Eisman
H2P-25-US Prov	31-Dec-08	61/204022			Electrochemical Hydrogen Pump Gas Composition Control Scheme	Remove excess H2 from FEED so as to control composition of syngas for fuel synthesis (anode gas composition control)	Eisman, Ludlow, Hirsch

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