PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3146976

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the THE OMITTED MIDDLE NAME FOR THE SECOND-NAMED INVENTOR previously recorded on Reel 034053 Frame 0344. Assignor(s) hereby confirms the THE SECOND-NAMED INVENTOR IS PAUL ANTONY GASS.

CONVEYING PARTY DATA

Name	Execution Date
NATHAN JAMES SMITH	10/22/2014
PAUL ANTONY GASS	10/23/2014

RECEIVING PARTY DATA

Name:	SHARP KABUSHIKI KAISHA	
Street Address:	22-22, NAGAIKE-CHO, ABENO-KU, OSAKA-SHI	
City:	OSAKA	
State/Country:	JAPAN	
Postal Code:	545-8522	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14524446

CORRESPONDENCE DATA

Fax Number: (216)621-6165

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 2166211113

Email: jshank@rennerotto.com **Correspondent Name:** LAWRENCE S. DRASNER

Address Line 1: 1621 EUCLID AVE, 19TH FLOOR

Address Line 4: CLEVELAND, OHIO 44115

ATTORNEY DOCKET NUMBER:	HARAP0350USA	
NAME OF SUBMITTER:	LAWRENCE S. DRASNER	
SIGNATURE:	/Lawrence S. Drasner/	
DATE SIGNED:	12/15/2014	

Total Attachments: 5

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> **PATENT** REEL: 034631 FRAME: 0022 503100369

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PATENT REEL: 034631 FRAME: 0023

PATEN²⁰¹² REEL: 034631 FRAME: 0024 HARAP0350USA PATENT (US&FO)

II. ASSIGNMENT

As a below named assignor, for good and valuable consideration acknowledged and received I hereby sell and assign my entire worldwide right, title and interest in the application and the invention(s), so far as concerns the United States and the Territories and Possessions thereof and all foreign countries to:

ASSIGNEE:

SHARP KABUSHIKI KAISHA 22-22, Nagaike-cho Abeno-ku, Osaka-shi Osaka, Japan 545-8522

Including:

any and all related patent application(s) in the United States or a country foreign thereto, including continuations, continuations-in-part, divisionals, conversions, renewals, substitutes, reissues, reexaminations, extensions, non-provisional applications, convention, International (e.g., Patent Cooperation Treaty (PCT)) and other applications based in whole or in part upon the invention(s) or upon the application(s);

any and all Letters Patent, renewals, reissues, reexamination certificates and extensions of Letters Patent granted for the invention(s) or upon the application(s); and

every priority right that is or may be predicated upon or arise from the invention(s), the application(s) and the Letters Patent.

I additionally authorize the Assignee to file patent applications in my or the Assignee's name for Letters Patent in any country (by international convention, treaty or otherwise), to be held and enjoyed by the Assignee, its successors and assigns, to the full end of the term or terms for which Letters Patent respectively may be granted, reissued, reexamined or extended, as fully and entirely as the same would have been held and enjoyed by me/us had this Assignment and transfer not been made.

I hereby covenant that I have the full right to convey the entire interests herein assigned, and that I have not executed and will not execute any agreement in conflict herewith and that such assigned rights are not encumbered by any grant, license or other right previously given.

I agree that each time a request is made, and without undue delay, I will execute and deliver all such papers as may be necessary or desirable to perfect the title in and to the invention(s), the application(s) and the Letters Patent, to the Assignee, its successors or assigns.

I agree, without undue delay, to undertake all reasonable acts to assure that said invention(s), patent application(s) and Letters Patent shall be held and enjoyed by the Assignee as fully and entirely as the same could have been held and enjoyed by the undersigned if this assignment had not been made, and particularly: to execute and deliver to the Assignee all lawful documents including petitions, specifications, oaths, declarations, powers of attorney, assignments, invention disclaimers and lawful affidavits in form and substance which may be requested by the Assignee; to furnish the Assignee with all facts relating to said invention(s) or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may be useful for establishing the facts of conception, disclosure and reduction to practice of said invention(s); and to testify in any proceedings relating to said invention(s), patent application(s) and Letters Patent.

I authorize the patent attorney of record and/or having power of attorney in the U.S. patent application identified above to insert the serial number and filing date information for the patent application in the appropriate spaces in this document when that information becomes available.

PATENT PATENT REEL: 034631 FRAME: 0025

Full Name of Sole or	First Inventor and Assignor:	Nathar	James S	MITH
Inventor's signature:	Jebr Sunt		Date:	2204.2014
Post Office Address:	65 Courtland Road Oxford OX4 4HZ United Kingdom			
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Full Name of Second	Inventor and Assignor:	Paul A	ntony GA	53
Inventor's signature:	Paul Goss		Date:	23022014
Post Office Address:	16 Ash Grove, Headington Oxford OX3 9JL United Kingdom			
	ECK FOR ANY OF THE FOLLOWING A PART OF THIS COMBINED DECL			
Signature for six	th and subsequent joint inventors and	assigno	ors; numb	er of pages added
	his combined declaration and assignment (CIP) application.	ent for (divisional,	continuation, or
This combined de	eclaration and assignment ends with t	his page)	

ADDED PAGE TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CIP APPLICATION

(complete this part only if this a divisional, continuation or CIP application)

PATENT2012

REEL: 034631 FRAME: 0026

HARAP0350USA PATENT (US&FO)

CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S) UNDER 35 U.S.C. 120

I hereby claim the benefit under Title 35, United States Codes, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application.

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 USC 120:				
U.S. APPLICATION NO.	U.\$. FILING DATE	PATENTED	PENDING	ABANDONED
13/532,154	June 25, 2012		Х	

PCT APPLICATION NO.	PCT FILING DATE	U.S. SERIAL NOS. ASSIGNED

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503037832 10/28/2014

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 EPAS ID: PAT3084431 Stylesheet Version v1.2

 SUBMISSION TYPE:
 NEW ASSIGNMENT

 NATURE OF CONVEYANCE:
 ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
NATHAN JAMES SMITH	10/22/2014
PAUL GASS	10/23/2014

RECEIVING PARTY DATA

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NAME OF SUBMITTER: LAWRENCE S. DRASNER

SIGNATURE: /Lawrence S. Drasner/

DATE SIGNED: 10/28/2014

Total Attachments: 4

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PATENT
RECORDED: 12/15/2014 REEL: 034631 FRAME: 0028