502025730 08/15/2012

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------------|----------------|
| James Robert KARAMATH | 05/16/2012 |
| Christopher James BROWN | 05/16/2012 |
| Sergio Garcia CASTILLO | 05/19/2012 |
| Harry Garth WALTON | 05/16/2012 |

RECEIVING PARTY DATA

| Name: | SHARP KABUSHIKI KAISHA | |
|-----------------|---|--|
| Street Address: | 22-22, Nagaike-cho, Abeno-ku, Osaka-shi | |
| City: | Osaka 545-8522 | |
| State/Country: | JAPAN | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13474195 |

CORRESPONDENCE DATA

 Fax Number:
 2166216165

 Phone:
 (216) 621-1113

Email: Idrasner@rennerotto.com

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

Mail.

Correspondent Name: Lawrence S. Drasner

Address Line 1: Renner, Otto, Boisselle & Sklar, LLP
Address Line 2: 1621 Euclid Avenue, Nineteenth Floor

Address Line 4: Cleveland, OHIO 44115

| ATTORNEY DOCKET NUMBER: | SHRPP0182US |
|-------------------------|---------------------|
| NAME OF SUBMITTER: | Lawrence S. Drasner |

Total Attachments: 4

source=SHRPP0182US_ASSN_EXEC#page1.tif source=SHRPP0182US_ASSN_EXEC#page2.tif source=SHRPP0182US_ASSN_EXEC#page3.tif source=SHRPP0182US_ASSN_EXEC#page4.tif

> PATENT REEL: 028790 FRAME: 0456

OF \$40.00 154/4185

502025730

ASSIGNMENT

WHEREAS:

ngare(s) and address(eb) cr inventor(s)

James Robert KARAMATH Bugambilia 112, Interior 2 Fracc, Loma Linda, C.P. 62139 Cuernavaca, Morelos Mexico

1 57 ESS/60 - COSS/ 6660S/6 663 #52

MARGORAN CERTAPI

Sergio Garcia CASTILLO 20 Blackstock Close, Headington Oxford OX3 7JR

Oxford OX3 7JR United Kingdom

Harry Garth WALTON
2 Abingdon Cottage, Beckley
Oxford OX3 9UU
United Kingdom

(hereinafter referred to as ASSIGNOR), have invented a certain invention entitled:

BYLE OF BYVERBON

TOUCH-SCREEN DEVICE INCLUDING TACTILE FEEDBACK ACTUATOR

for which application for Letters Patent of the United States has been

PARTICULARS OF APPLICATION

hereby sell(s) and assign(s) the entire worldwide right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries to:

NAME, STATE OF INCORPORATION AND ACCRESS OF ASSIGNEE SHARP KABUSHIKI KAISHA 22-22, Nagaike-cho, Abeno-ku, Osaka-shi Osaka 545-8522 Japan

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 said invention(s) or upon said application(s);

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

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

I/We additionally authorize the Assignee to file patent applications in my/our 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 merus had this Assignment and transfer hat been made.

Ave also appoint the Assignee as myour common representative to represent metus before all the competent international Authorities in connection with any and all international applications.

After hereby authorize the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments to assue or transfer all said Letters Patent to the Assignee in accordance herewith.

(We hereby coverant that live have the full right to convey the entire interests herein assigned and that live 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 night previously given. [We agree that each time a request is made, and without undue delay. If we will execute and deliver all such papers as may be necessary or desirable to perfect the title in and to the invention(s), said application(s) and said Letters Patent, to the Assignee, its successors or assigns.

ifWe 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 tawful documents including peritions, specifications, caths, 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, pholographs, 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/We hereby sell, assign and transfer unto the Assignee the authority to revoke power(s) of attorney executed by me/us in connection with this application and to appoint a new power of attorney in place thereof.

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 assignment document when that information becomes available.

NUL NAMES OF INVENTORS(S)

| | $M = A \cap A$ |
|---|---------------------------------------|
| nete 16 (05/2012 | MaawaFl |
| Date 15 [U] ZU Z | · · · · · · · · · · · · · · · · · · · |
| | James Robert KARAMATH |
| | |
| | |
| Date | |
| *************************************** | Christopher James BROWN |
| | |
| | |
| Date | |
| Jau | Sergio Garcia CASTILLO |
| | Sergio Galicia GASTILLO |
| | |
| | |
| Date | |
| | Harry Garth WALTON |

same would have been held and enjoyed by me/us had this Assignment and transfer not been made.

I/We also appoint the Assignee as my/our common representative to represent me/us before all the competent international Authorities in connection with any and all international applications.

I/We hereby authorize the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to the Assignee in accordance herewith.

I/We hereby covenant that I/we have the full right to convey the entire interests herein assigned, and that I/we 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/We agree that each time a request is made, and without undue delay, I/we will execute and deliver all such papers as may be necessary or desirable to perfect the little in and to the invention(s), said application(s) and said Letters Patent, to the Assignee, its successors or assigns.

VWe 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, caths, declarations, powers of attorney, assignments, invention disclaimers and lawful alfidavits 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/We hereby sell, assign and transfer unto the Assignee the authority to revoke power(s) of attorney executed by me/us in connection with this application and to appoint a new power of attorney in place thereof.

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 assignment document when that information becomes available.

FUEL NAME(S) OF INVENTORS(S)

| Date | |
|----------------------|-------------------------|
| Date 184 16 , 2012 | James Robert KARAMATH |
| | Christopher James BROWN |
| Date | |
| | Sergio Garcia CASTILLO |
| Date Stala | 16MAY 2012 |
| | Harry Garth WALTON |

Attorney Docket No. SHRPP0182US

same would have been held and enjoyed by me/us had this Assignment and transfer not been made.

I/We also appoint the Assignee as my/our common representative to represent me/us before all the competent International Authorities in connection with any and all international applications.

I/We hereby authorize the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to the Assignee in accordance herewith.

V/Ve hereby covenant that I/we have the full right to convey the entire interests herein assigned, and that I/we have not executed and will not execute any agreement in conflict herewith and that such assigned rights are not encumbered by any grant. Iiicense or other right previously given. I/We agree that each time a request is made, and without undue delay. I/we will execute and deliver all such papers as may be necessary or desirable to perfect the title in and to the invention(s), said application(s) and said Letters Patent, to the Assignee, its successors or assigns.

I/We agree, without undue detay, 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 patitions, specifications, daths, 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/We hereby sell, assign and transfer unto the Assignee the authority to revoke power(s) of altomey executed by me/us in connection with this application and to appoint a new power of altomey in place thereof.

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 filling date information for the patent application in the appropriate spaces in this assignment document when that information becomes available.

PULL NAME(S) OF BOVENTORS(S)

| Date | |
|---------------|-------------------------|
| | James Robert KARAMATH |
| Date | |
| 000 | Christopher James BROWN |
| Date 19/05/12 | ENTHY |
| Vane | Sergio Garcia CASTILLO |
| Date | |
| 0402 | Harry Garth WALTON |

Z