Form PTO-1595 (Rev. 03-05)



TMENT OF COMMERCE

| OMB No. 0651-0027 (exp. 6/30/2005) | 103246290 | |
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| L CATEAU | S ONLY | |
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| To the Director of the U.S. Patent and Trademark Office: Please | e record the attached documents or the new address(es) below. | |
| 1. Name of conveying party(ies): | 2. Name and address of receiving party(ies) | |
| Masahiro KATO (5/16/2006), Takao HIRANO (5/16/2006), and Hitoshi TANAKA (5/16/2006) | Name: Sharp Kabushiki Kaisha | |
| Additional name(s) of conveying party(ies) attached? | Internal Address: Street Address: | |
| 3. Nature of conveyance/Execution Date(s): | 22-22, Nagaike-cho, Abeno-ku | |
| Execution Date(s): in parentheses after inventor name | Osaka-shi Osaka 545-8522 | |
| X Assignment Merger Change of Name | JAPAN | |
| Security Agreement Joint Research Agreement | City: | |
| Government Interest Assignment | State: | |
| Executive Order 9424, Confirmatory License | Country: Zip: | |
| Other | Additional name(s) & address(es) Yes X No attached: | |
| 11/371,004 | 2 | |
| Additional numbers attached 5. Name and address to whom correspondence | ? Yes X No 6. Total number of applications and | |
| concerning document should be mailed: | patents involved: | |
| Name: Charles Gorenstein BIRCH, STEWART, KOLASCH & BIRCH, LLP | 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 | |
| Internal Address: Atty. Dkt.: 0033-1068PUS1 | 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 Authorized to be charged by credit card | |
| Street Address: 8110 Gatehouse Road | | |
| Suite 100 East | Authorized to be charged to deposit account | |
| P.O. Box 747 | x Enclosed | |
| | None required (government interest not affecting title) | |
| City: Falls Church | 8. Payment Information | |
| State: VA Zip: 22040-0747 | a. Credit Card Last 4 Numbers | |
| Phone Number: (703) 205-8000 | Expiration Date | |
| Fax Number: (703) 205-8050 | b. Deposit Account Number | |
| Email Address: mailroom@bskb.com | Authorized User Name | |
| 9. Signature: Clumburtun | May 22, 2006 | |
| Signature 20.074 | Date | |
| Charles Gorenstein - 29,271 Name of Person Signing | Total number of pages including cover sheet, attachments, and documents: | |

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UNITED STATES PATENT RIGHTS, OR UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

ASSIGNMENT

| | Application No. <u>11/371,004</u> | | Filed March 9, 2006 |
|---|---|---|---|
| Insert Name(s) of Inventor(s) | | Name FAMILY NAME (A Masahiro KATO | |
| n nivemor(s) | | Hitoshi TANAKA | Takau Tilicano |
| | | | |
| Insert Title of Invention | , _ | | d certain new and useful improvements in |
| or invention | | Letters Patent of the United Sta | tes of America has been executed by the undersigned |
| Insert Date of Signing of Application | onN | | ; and |
| Insert Name of Assignee | WHEREAS, Sharp Kabushil | ki Kaisha | |
| Insert Address of Assignee | of 22-22, Nagaike-cho, Aber | no-ku, Osaka-shi, Osaka 545-8: | 522 Japan |
| | its being groupegage land. | representatives and engine (h | creinafter designated as the Assignee) is desirous of |
| CHECK BOX IF APPROPRIATE | | le and interest in and to said inv | rention and in and to any Letters Patent(s) that may be |
| | receipt of which is hereby ack assigned and transferred, an exclusive right to the said inv the entire right, title and inte | knowledged, and other good and nd by these presents does sell, vention in the United States of Ar rest in and to any and all Letters | Dollars (\$10.00) to the undersigned in hand paid, the valuable consideration, the undersigned has (have) sold, assign and transfer unto said Assignee the full and nerica, its territories, dependencies and possessions and Patent(s) which may be granted therefor in the United ons, and if the box above is designated, in any and all |
| | and to any and all divisions, which the same may be grant | | ons and extensions thereof for the full term or terms for |

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PATENT REEL: 017900 FRAME: 0401 The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree (s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letter Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agree(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States of America patent(s) or a grant of a valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorize(s) and request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

The undersigned hereby covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

| Date May 16, 2006, | Name of Inventor Masahiro KATO (signature) Masahiro KATO | |
|--------------------|---|--|
| Date May 16, 2006 | Name of Inventor <u>Jakac Nerane</u> (signature) Takao HIRANO | |
| Date May 16, 2006 | Name of Inventor Mitishi Janakar (signature) Hitoshi TANAKA | |
| Date, | Name of Inventor(signature) | |
| Date, | Name of Inventor(signature) | |
| Date, | Name of Inventor(signature) | |

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PATENT REEL: 017900 FRAME: 0402