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| MODIFIED Form PTO-1505 | U.S. DEPARTMENT OF COMMER |
| (Rev. 10/02) OCT 1 1 2005 | U.S. Patent and Trademark Of |
| To the Direct of the U.S. Patent and Transmiss of | 103103259 The actual the attached original documents or copy thereof. |
| 1. Name of conveying parties | 2. Name and address of receiving party(ies): |
| Takayoshi ATSUMI | NGK SPARK PLUG CO., LTD. |
| Hiroshi ISOMURA Keita NAKAGAWA | 14-18, Takatsuji-cho, |
| Toru FURUICHI | Mizuho-ku, Nagoya-shi, Aichi, Japan |
| Takao KOJIMA | |
| Additional name(s) of conveying party(ies) attached? ☐ Yes ☑ No | |
| 3. Nature of conveyance: | |
| ☑ Assignment ☐ Merger | |
| ☐ Security Agreement ☐ Change of Name | |
| ☐ Other | |
| Execution Date: October 3, 2005, October 3, 2005, | - |
| October 3, 2005, October 3, 2005, October 3, 2005, | |
| respectively | Additional name(s) & address(es) attached? ☐ Yes ☑ No |
| 4. Application number(s) or patent number(s): | |
| If this document is being filed together with a new applied | cation, the execution date of the application is: |
| A. Patent Application No.(s) 11/185,681 | B. Patent No.(s) |
| Additional numbers | : attached? ☐ Yes ☑ No |
| 5. Name and address of party to whom correspondence | 6. Total number of applications and patents involved: |
| concerning document should be mailed: | 1 |
| SUGHRUE MION, PLLC | 7. Total fee (37 CFR 3.41): \$40.00 |
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| 23373 | ☐ Authorized to be charged to Deposit Account No. 19-4880. |
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PATENT REEL: 017093 FRAME: 0398

ASSIGNMENT

Whereas, I/we

Takayoshi ATSUMI of Aichi, Japan Hiroshi ISOMURA of Aichi, Japan Keita NAKAGAWA of Gifu, Japan Toru FURUICHI of Aichi, Japan Takao KOJIMA of Aichi, Japan

hereinafter called assignor(s), have invented certain improvements in

GAS SENSOR AND METHOD FOR MANUFACTURING THE SAME
and executed an application for Letters Patent of the United States of America therefor on

October 3, 2005; and

Whereas,

NGK SPARK PLUG CO., LTD.

14-18, Takatsuji-cho, Mizuho-ku, Nagoya-shi, Aichi, Japan

(assignee), desires to acquire the entire right, title and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged.

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America, including the right to claim priority under 35 U.S.C. § 119, and I/we request the Director – U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States application when called upon to do so by the assignee.

I/We hereby authorize and request my/our attorneys SUGHRUE MION, PLLC of 2100 Pennsylvania Avenue, N.W., Washington, D.C. 20037-3213 to insert here in parentheses (Application number 11/185,681 , filed July 21, 2005) the filing date and application number of said application when known.

| Date: October 3, 2005 | sı_ Jakayoshi Atsumi |
|-----------------------|----------------------|
| Date: October 3, 2005 | s/ Idirahi Dsomma |
| Date: October 3, 2005 | si_Keita Vakagana |
| Date: October 3, 2005 | sı Jorn Ingriceki |
| Date: October 3, 2005 | si Jakao Kojima |

(Legalization not required for recording but is prima facie evidence of execution under 35 U.S.C. §261)

PATENT
RECORDED: 10/11/2005 REEL: 017093 FRAME: 0399