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OMB No. 0651-0027 (exp. 6/30/2008)U.S. DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

PTO 22 DEC 2005

103150465

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies):**Haruhiko Deguchi (12/10/2005), Chiyoshi  
Yoshioka (12/12/2005), Yasuhiro Sakamoto  
(12/12/2005),Additional name(s) of conveying party(ies) attached? ☒ Yes ☐ No**3. Nature of conveyance/Execution Date(s):**

Execution Date(s): in parentheses after inventor name

☒ Assignment ☐ Merger ☐ Change of Name☐ Security Agreement ☐ Joint Research Agreement☐ Government Interest Assignment☐ Executive Order 9424, Confirmatory License☐ Other**2. Name and address of receiving party(ies)**

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Additional name(s) & address(es) attached? ☐ Yes ☒ No**4. Application or patent number(s):**☒ This document is being filed together with a new application.

A. Patent Application No.(s)

This application

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No**5. Name and address to whom correspondence concerning document should be mailed:**Name: David A. Tucker  
EDWARDS ANGELL PALMER & DODGE  
LLP

Internal Address: Atty. Dkt.: 64702 (70904)

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State: MA Zip: 02205

Phone Number: (617) 517-5508

Fax Number: (617) 439-4170

Email Address: dtucker@eapdlaw.com

**6. Total number of applications and patents involved:**

1

**7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00**☐ Authorized to be charged by credit card☒ Authorized to be charged to deposit account☐ Enclosed☐ None required (government interest not affecting title)**8. Payment Information**a. Credit Card Last 4 Numbers  
Expiration Date

b. Deposit Account Number 04-1105

Authorized User Name David A. Tucker

**9. Signature:**

Signature

December 22, 2005

Date

David A. Tucker - 27,840

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

6

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RECORDATION FORM COVER SHEET  
(continued)

## Additional Conveying Party(ies)/Execution Date(s) (1. Continued):

Hidetsugu Kawai (12/12/2005), and Shigeaki Kakiwaki (12/12/2005)

## Additional Assignees (2. Continued):

Assignee Name: \_\_\_\_\_

Internal Address: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_ Zip: \_\_\_\_\_

Assignee Name: \_\_\_\_\_

Internal Address: \_\_\_\_\_

Street Address: \_\_\_\_\_

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## Additional Applications and/or Patents (4. Continued):

Additional Patent Application Numbers  
4A. Continued:Additional Patent Numbers  
4B. Continued:

Additional numbers attached?

☐ Yes☐ No

Docket No.

## ASSIGNMENT

I/We, Haruhiko DEGUCHI, Chiyoshi YOSHIOKA, Yasuhiro SAKAMOTO, Hidetsugu KAWAI and Shigeaki KAKIWAKI(inventors), for good and valuable consideration from SHARP KABUSHIKI KAISHA(assignee), having its principal place of business at 22-22, Nagaike-cho Abeno-ku Osaka-shi Osaka 545-8522 Japan(address) hereinafter called the Assignee, receipt of which is hereby acknowledged, do hereby sell, assign and transfer unto the Assignee, its successors and assigns, the entire right, title and interest in, to and under an application for Letters Patent of the United States Serial No. \_\_\_\_\_ filed on \_\_\_\_\_ for improvements in the NOZZLE PLATE AND METHOD OF MANUFACTURING THE SAME(title) priority rights ensuing therefrom, and the inventions and any of them therein set forth and described, in any and all Letters Patent of the United States and of countries foreign thereto which may be granted thereon or therefor, together with the right to apply for such Letters Patent.

And for the above consideration I/We agree promptly upon request of the Assignee, its successors or assigns, to execute and deliver without further compensation any power of attorney, assignment, application, whether original, divisional, continuation or reissue, or other papers which may be necessary or desirable fully to secure to the Assignee, its successors and assigns, the inventions and any of them described in said application and all patent rights therein, in the United States and in any country foreign thereto.

The undersigned agree(s) to furnish all pertinent facts and documents relating to said application, said invention and said patent(s) as may be known and accessible to the undersigned, and will testify as to the same in any interference or litigation related thereto, and will promptly execute and deliver to Assignee any and all papers, instruments or affidavits necessary or desirable to apply for, obtain, maintain or enforce said application or said patent(s) in connection with any interference which may be declared, and any litigation concerning this application or any continuation, division or reissue thereof or Patent(s) or reissue patent(s) issued thereon, and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference or litigation.

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 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.

RECORDATION FORM COVER SHEET

PATENT **AP 2005** Rec'd PCT/PTO 28 DEC 2005

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