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RE



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S. DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

TANAKA, Takeshi
MIZUGUCHI, Nobuaki
TODORI, Seijiro
MITSUDOMI, Shinya
INA, Yoshihiko
NAKAIGAWA, Syu

8-18-04

2. Name and address of receiving party(ies)

Name: **HITACHI, LTD.**

Street Address: 6, Kanda Surugadai 4-chome, Chiyoda-ku,
Tokyo, Japan

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other _____

Additional name(s) & address(es) attached? ☐ Yes ☒ NoExecution Date: **July 12, 2004**

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: _____.

A. Patent Application No.(s)

10/352,990 Filed January 29, 2003

B. Patent Registration No.(s)

Additional number(s) attached ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: **Antonelli, Terry, Stout & Kraus, LLP**

Internal Address:

**1300 North Seventeenth Street
Suite 1800
Arlington, VA 22209
USA**

City: _____ State: _____ Zip: _____

6. Total number of applications and patents involved **1**7. Total fee (37 CFR 3.41)..... **\$ 40.00**

- ☒ Enclosed
☒ Authorized to be charged to deposit account

8. Deposit account number:

01-2135

(Attach duplicate copy of this page if paying by deposit account)

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

William I. Solomon, Reg#28,565

Name of Person Signing

Signature

08/18/2004

Date

Total number of pages including cover sheet, attachments, and document: **2**

Mail documents to be recorded with required cover sheet information to:
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Washington, D.C. 20231

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PATENT
REEL: 015692 FRAME: 0473

ASSIGNMENT

ATTY. DOCKET NO.: 648.42413X00

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

ROLLING STOCK

☐ for which an application for Letters Patent to be filed in the United States Patent and Trademark Office was executed on even date.

☒ for which U.S. Application Serial No. 10/352,990 for Letters Patent was filed in the U.S. Patent and Trademark Office on January 29, 2003

☐ for which an International Application was filed on _____ as _____, designating the United States.

AND WHEREAS
HITACHI, LTD.
6, Kanda Surugadai 4-chome
Chiyoda-ku, Tokyo, Japan

hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.

NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.

AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign countries for said invention and to assign the same to said ASSIGNEE, its assigns and legal representatives and to execute any other papers that may be needed in connection with filing said applications and securing Letters Patents thereon.

AND ASSIGNOR authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on said application, and on any and all divisions and continuations thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.

The undersigned hereby grant(s) the law firm of Antonelli, Terry, Stout, Kraus, 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 United States Patent and Trademark Office for recordation of this document.

IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR.

201	FULL NAME OF SOLE OR FIRST NAMED INVENTOR Takeshi TANAKA	INVENTOR'S SIGNATURE <i>Takeshi Tanaka</i>	DATE July 12, 2004
202	FULL NAME OF SECOND JOINT INVENTOR Nobuaki MIZUGUCHI	INVENTOR'S SIGNATURE <i>Nobuaki Mizuguchi</i>	DATE July 12, 2004
203	FULL NAME OF THIRD JOINT INVENTOR Seijiro TODORI	INVENTOR'S SIGNATURE <i>Seijiro Todori</i>	DATE July 12, 2004
204	FULL NAME OF FOURTH JOINT INVENTOR Shinya MITSUDOMI	INVENTOR'S SIGNATURE <i>Shinya Mitsudomi</i>	DATE July 12, 2004
205	FULL NAME OF FIFTH JOINT INVENTOR Yoshihiko INA	INVENTOR'S SIGNATURE <i>Yoshihiko Ina</i>	DATE July 12, 2004
206	FULL NAME OF SIXTH JOINT INVENTOR Syu NAKAIGAWA	INVENTOR'S SIGNATURE <i>Syu Nakaigawa</i>	DATE July 12, 2004
207	FULL NAME OF SEVENTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
208	FULL NAME OF EIGHTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE