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Attorney Docket No. 154014

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Simon Edward BRAY
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 Yes No

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3. A. Nature of conveyance:
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B. Execution Date: JULY 2, 2012

B. Additional name(s) & address(es) attached?
 Yes No

4. A. Patent Application No. 13/535,861

B. Patent No.(s)

Additional numbers attached? Yes No

C. Title of Application: A METHOD OF LINEAR FRICTION WELDING

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

Name: James A. Oliff

Address: **OLIFF & BERRIDGE, PLC
P.O. Box 320850
Alexandria, VA 22320-4850
Phone Number: 703-836-6400
Fax Number: 703-836-2787**

6. Total number of applications and patents involved: 1

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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.


James A. Oliff, Registration No. 274,775
Charles C. Fang, Registration No. 62,825

Date: August 3, 2012

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ASSIGNMENT

(1-8) Insert Name(s) of Inventor(s)

(1) SIMON EDWARD BRAY (5) _____
 (2) _____ (6) _____
 (3) _____ (7) _____
 (4) _____ (8) _____

In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, each undersigned agrees to assign, and hereby does assign, transfer and set over to

(9) Insert Name of Assignee
 (10) Insert Address of Assignee

(9) ROLLS-ROYCE PLC
 (10) 65 BUCKINGHAM GATE, LONDON, SW1E 6AT, GREAT BRITAIN
 (hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, confirmation, substitute and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11) Insert Identification such as Title, Case Number, or Foreign Application Number

(11) 4877 PDG
A METHOD OF LINEAR FRICTION WELDING
 (Attorney Docket No. 154014)
 for which the undersigned has (have) executed an application for patent in the United States of America on even date herewith or

(12) Insert Date of Signing of Application

(12) on July 2, 2012

(13) Alternative Identification for filed applications

(13) U.S. application Serial Number 13/535,861
 filed June 28, 2012

- 1) Each undersigned agrees to execute all papers necessary in connection with any application and any continuing, divisional or reissue applications for the invention, and any patent(s) issuing thereon, and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.
- 2) Each undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning any application or continuation or division thereof, or any patent or reissue application based thereon, for the invention, and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.
- 3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.
- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office to issue any and all Letters Patents of the United States resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreements in conflict herewith, and agrees that this assignment is binding on him and his heirs, successors, assigns and legal representatives.
- 6) Each undersigned hereby grants the firm of OLIFF & BERRIDGE, PLC the power to insert on this assignment any further identification that 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 witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date	<u>2nd July 2012</u>	Inventor Signature	<u>Simon E Bray</u> SIMON EDWARD BRAY	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date 2nd July 2012 Witness [Signature]
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