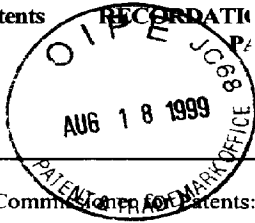


8-18-99

08-20-1999

Assistant Commissioner for Patents
Box Assignments
Washington, D.C. 20231



101122306

DEPARTMENT OF COMMERCE
Patent and Trademark Office

Attorney Docket No. 103568

To the Assistant Commissioner for Patents: Please record the attached original document or copy thereof.

1. A. Name of conveying party(ies):
Robert P.E. WILLIAMSON
Kevin P. SELF
Martin A.J. EMERY
- B. Additional name(s) of conveying party(ies) attached?
☐ Yes ☒ No

2. A. Name and address of receiving party(ies):
ROLLS-ROYCE PLC
65 BUCKINGHAM GATE, LONDON
SW1E 6AT, ENGLAND

3. A. Nature of conveyance:
- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other _____
- B. Execution Date: June 8, 1999

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

4. A. If this document is being filed together with a new application, the execution date of the application is: June 8, 1999
- B. Patent Application No.(s) 09/334,933
- C. Patent No.(s) _____
- Additional numbers attached? ☐ Yes ☒ No

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 19928
Alexandria, VA 22320

6. Total number of applications and patents involved: 1

7. A. Total fee (37 CFR 3.41).....\$ 40.00

- B. Enclosed (Check No. 102386)

8. Credit any overpayment or charge any underpayment to deposit account number 15-0461.

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.

Thomas J. Pardini
James A. Oliff Registration No. 27,075
Thomas J. Pardini Registration No. 30,411

Date: August 18, 1999Total number of pages including cover sheet, attachments, and document: 2

ASSIGNMENT

(1-8) Insert Name(s) of Inventor(s) (1) ROBERT PETER E. NEST WILLIAMSON (5) _____
 (2) KEVIN PAUL SELF (6) _____
 (3) MARTIN ANTHONY JAMES EMERY (7) _____
 (4) _____ (8) _____

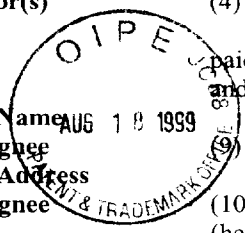
(9) Insert Name of Assignee (9) ROLLS-ROYCE plc

(10) Insert Address of Assignee (10) 65 BUCKINGHAM GATE, LONDON, SW1E 6AT, ENGLAND
 (hereinafter designated as the Assignee) the entire right, title and interest for the United States, its territories, dependencies and possessions, in the invention, and all applications for patent and any Letters Patent which may be granted therefor, known as

(11) Insert Identification, such as Title, Case Number or Foreign Application Number (11) IMPROVEMENTS IN OR RELATING TO COOLING SYSTEMS FOR GAS TURBINE ENGINE AIRFOIL
 (Case No 103568)
 for which the undersigned has(have) executed an application for patent in the United States of America

(12) Insert Date of Signing of Application (12) on June 8, 1999

(13) Alternative Identification for filed applications (13) US application Serial Number 09/334,933
 filed June 17, 1999



1) The undersigned agree(s) to execute all papers necessary in connection with the application and any continuing or divisional applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary.

2) The undersigned agrees(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation or division thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

3) The undersigned agree(s) 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 of similar agreements.

4) The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

5) The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patents of the United States resulting from said application or any division or divisions or continuing applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreements in conflict herewith.

6) The undersigned hereby grant(s) the firm of **OLIFF AND BERRIDGE** 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 witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date 8 June 1999 R P E Williamson [Signature] (SEAL)
 Date 8 June 1999 K P Self [Signature] (SEAL)
 Date 8 June 1999 M A J Emery [Signature] (SEAL)

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

Date 8 JUNE 99 Witness for R P E Williamson [Signature] (S. A. WALTERS)
 Date 8 June 99 Witness for R P E Williamson [Signature] (R. L. ARNOLD)
 Date 8 June 99 Witness for K P Self [Signature] (B. M. BANES)
 Date 8 June 99 Witness for K P Self [Signature] (K. D. CURTIS)
 Date 8 June 99 Witness for M A J Emery [Signature] (B. M. BANES)
 Date 8 June 99 Witness for M A J Emery [Signature] (K. D. CURTIS)