Ass Dir	· · · · · · · · · · · · · · · · · · ·	ON FORM COVER SHEET ATENTS ONLY U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office							
	xandria, VA 22313-1450	Attorney Docket No. 146150							
Please record the attached document. Total number of pages including cover sheet, attachments, and document: 3									
1.	A. Name of conveying parties: 1.) Simon Edward BRAY 2.) Michael David ROWLSON B. Additional name(s) of conveying party(ies) attacl	2. A. Name and address of receiving party: ROLLS-ROYCE PLC 65 BUCKINGHAM GATE LONDON, SW1E 6AT, GREAT BRITAIN							
3.	A. Nature of conveyance:	B. Additional name(s) & address(es) attached?							
	✓ Assignment ☐ Merger ☐ Security Agreement ☐ Change of Name ☐ Other	e 							
4.	A. Patent Application No. 12/835,182	B. Patent No.(s)							
	Additional num	bers attached?							
	C. Title of Application: A METHOD OF FRIC	CTION WELDING							
5.	Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1							
	Name: James A. Oliff	7. Please charge Deposit Account No. 15-0461 the total fee (37 CFR 3.41) in the amount of \$40.00.							
	Address: OLIFF & BERRIDGE, PLC P.O. Box 320850 Alexandria, VA 22320-4850 Phone Number: 703-836-6400 Fax Number: 703-836-2787	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 is original document. James A. Oliff, Registration No. 27,075 Matthew C. Barthalow, Registration No. 60,323	nformation is true and correct and any attached copy is a true copy of the Date: July 13, 2010							

PATENT REEL: 024679 FRAME: 0717

			ASSIGN	MENT			
		(1)	SEMON EDWARD BRAY	(5)			
(1-8)	Insert Nume(s) of Inventor(s)	(2)	MICHAEL DAVID ROWLSO	N (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	(9)	ROLLS-ROYCE PLC				
(10)	Insert Address of Assignee			ONDON, SWIE 6AT, GREAT BRITA	IN		
		(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	(11)	A METHOD OF FRICTION V	VELDING			
	such as Title, Case		4405 TAL	······································			
	Number, or Foreign Application Number	(Atto	(Attorney Docket No. 146150				
			nich the undersigned has (have) e en date herewith or	executed an application for patent in th	e United States of Americ		
(12)	Insert Date of Signing of Application	(12)	on				
(13)	Alternative	(13)	U.S. application Serial Number	12/835,182			
	Identification for filed applications	filed	July 13, 2010				
applica any app the Ass claims reexam Patents full rigl and agr identifi	applications for the inventicitions and patents as the Ass 2) Each undersigned agree blication or continuation or of lignee in every way possible 3) Each undersigned agree or provisions of the Internat 4) Each undersigned agree ination a grant of a valid Un 5) Each undersigned author the United States resulting to convey the entire intercess that this assignment is b 6) Each undersigned here cation that may be necessarition of this document. In witness whereof, exec	on, and an ignee may est to excedivision the in obtaining so to excedivision. It could be so to perfect the corizes and go to excedive and the individual of	y patent(s) issuing thereon, and a deem necessary. ute all papers necessary in coance tereof, or any patent or reissue aging evidence and going forward vute all papers and documents and vention for Protection of Industriorm all affirmative acts which mass patent to the Assignee. It requests the Commissioner of this application(s) to the said Assigned, and that he has not exeluin and his heirs, successors, at the firm of OLIFF & BERRIDGE, the in order to comply with the reader and entities of the contestion of the comply with the reader and entitled on the comply with the reader and entitled on the date(s) of the coancel of the c	i perform any act which may be necess al Property or similar agreements, by be necessary to obtain, maintain or the U.S. Patent and Trademark Office to gnee, as Assignee of the entire interestuted, and will not execute, any agreers signs and legal representatives. FLC the power to insert on this assigneables of the United States Patent and Topposite the undersigned name(s).	connection with such be declared concerning tion, and to cooperate with sary in connection with confirm by reissue or o issue any and all Letters t, and covenants that he ha ments in conflict herewith, ment any further		
Date	1/2/10		Inventor Signature		(SEAL)		
	11/10			Simon Edward Bray	400443		
Date			Inventor Signature	Michael David Rowlson	(SEAL)		
Date			Inventor Signature		(SEAL)		
Date			Inventor Signature		(SEAL)		
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Date			Inventor Signature		(SEAL)		
Date			Inventor Signature		(SEAL)		

Inventor Signature

01/07/2010

Witness _

PATENT REEL: 024679 FRAME: 0718

				MOOLGIA	ATTENTAL			
		(1)	SIMON EDWA	RD BRAY		(5)		
(1-8)	Insert	(2)	MICHAEL DAY	MD ROWLSON		(6)		
	Name(s) of Inventor(s)	(3)				(7)		
		(4)						
		to eac	h of the undersigns				good and valuable I hereby does assign	consideration paid n, transfer and set
(9)	insert Name of	400	not to nove	. 01 6				
(10)	Assignee Insert Address of	(9)	ROLLS-ROYCE					
	Assignee	the entineent	tire right, title and i ion, and in all appli uation, internations	the Assignee) and interest for the Unications for pater il, confirmation,	nd Assigne nited State it including substitute	e's heirs, succes s of America as g any and all pro and reissue appl	At BRITAIN sors, assigns and leg defined in 35 U.S.C ovisional, non-providication(s), and all L ted on the invention	C. §100, in the sional, divisional, etters Patent,
(11)	Insert	(11)	A METHOD OF	FRICTION W	ELDING	·	**************************************	
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(13)	Alternative	(13)	U.S. application	Serial Number	12/8	35,182		<u> </u>
	Identification for filed applications	filed	July 13	2010				
any app the Ass claims reexam Patents full righ and agr identifi	tions and patents as the Assig 2) Each undersigned agree- plication or continuation or di ignee in every way possible it 3) Each undersigned agree- provisions of the Internation 4) Each undersigned agree- ination a grant of a valid Unit 5) Each undersigned author of the United States resulting into convey the entire interes- ess that this assignment is bit 6) Each undersigned hereb- cation that may be necessary tion of this document. In witness whereof, execu-	s to executivision the nobtaining to executional Communication of the terminal control of the terminal	ute all papers necesions, or any paten ing evidence and go the all papers and ovention for Protections all affirmatives patent to the Assi requests the Commid application(s) to assigned, and that I him and his heirs, the firm of OLIFF to the in order to compare the commid application of OLIFF to the firm of OLIFF to the in order to compare the committee and the committe	at or reissue applying forward with locuments and place to form of Industrial acts which may gue. In the said Assigned has not execusive successors, assigned to the said Assigned has not execusive successors, assigned with the tuber of the said assigned has not executed his said as a sai	lication bath such into berform an Property of be necessary. U.S. Paten nec, as Assatted, and we gas and le LC the powes of the L	sed thereon, for erference, y act which ma or similar agree ary to obtain, m at and Tradema ignee of the en- rill not execute, gal representativer to insert on Juited States Pa	the invention, and y be necessary in coments. In the confirmal of the conf	to cooperate with onnection with by reissue or my and all Letters remants that he has conflict herewith,
Date			Invento	r Signature	/	water Estate ((SEAL)
Date	14 June 201	0	 Invento	r Signature	MARIE	ava Rowlson	IM	(SEAL)
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