PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
FRANCK EDMOND MAURICE TRUELLE	05/13/2013
ALAIN GRANDIN	05/13/2013
MAIDIN MOUGAMADOU ABOUDALCADAR	05/13/2013

RECEIVING PARTY DATA

Name:	SNECMA
Street Address:	2 BOULEVARD DU GENERAL MARTIAL VALIN
City:	PARIS
State/Country:	FRANCE
Postal Code:	F-75015

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14368215

CORRESPONDENCE DATA

Fax Number: (703)770-7901

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Correspondent Name: PILLSBURY WINTHROP SHAW PITTMAN LLP

Address Line 1: P.O. BOX 10500

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ATTORNEY DOCKET NUMBER:	022044-0432716
NAME OF SUBMITTER:	JENNIFER E. SALLEE
SIGNATURE:	/Jennifer E. Sallee/
DATE SIGNED:	06/23/2014

Total Attachments: 3

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PATENT 502863444 REEL: 033160 FRAME: 0089

Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

Inventor Name	Complete Address
TRUELLE Franck Edmond Maurice	10, Rue Mignon 95100 ARGENTEUIL FRANCE

(Hereinafter referred to as the Assignor) have made an invention entitled:

Title of Inventio	on (In French)
PROCEDE DE FABI	RICATION D'UN NOYAU CERAMIQUE POUR AUBE MOBILE. NOYAU CERAMIQUE, AUBE MOBILE
Title of Inventio	on (In English)
METHOD OF	MANUFACTURING A CERAMIC CORE FOR MOBILE BLADE, CERAMIC CORE AND MOBILE BLADE

for which an application for Letters Patent has been filed in the following country:

Country	Filing Date	Serial Number
FRANCE	DEC-23-2011	1162358
PCT	DEC-20-2012	PCT/FR2012/053010

The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application,

AND, WHEREAS,

Corporation Name	Complete Address
SNECMA .	SNECMA 2 Boulevard du Général Martial Valin 75015 PARIS FRANCE

(Hereinafter referred to as the Assignee[s]) is/are desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications:

NOW THEREFORE, be it known that for and in consideration of One EURO (€1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, I, the Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all relssues thereof, and all rights to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and reissues thereof; and I hereby authorize and request the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I HEREBY further covenant and agree that I will communicate with the Assignee(s), its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee(s), its/their successors or assigns, execute all divisional, continuation, reissue, and re-examination applications, make all rightful oaths and generally do everything possible to ald the Assignee(s), its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee(s) or its/their successors, and assigns.

This Assignment agreement is effective as of the earliest filing date mentioned above.

AND, I/WE HEREBY acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

IN TESTIMONY WHEREOF, I HAVE SIGNED:

Date	Place	Inventor Name & Signature	Witness Name & Signature
Day 13HL	Genneonthiess	Franck TRUELLE	Ruleppe CHABANEIX

Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

Inventor Name	Complete Address
GRANDIN Alain	103 rue du Château 92600 ASNIERES SUR SEINE FRANCE

(Hereinafter referred to as the Assignor) have made an invention entitled:

Title of Invention (in French)	
PROCEDE DE FABRICATION D'UN NOYAU CERAMIQUE POUR AUBE MOBILE, NOYAU CERAMIQUE, AUBE MOBILE	
Title of Invention (in English)	
METHOD OF MANUFACTURING A CERAMIC CORE FOR MOBILE BLADE, CERAMIC CORE AND MOBILE BLADE, CERAM	BLADE

for which an application for Letters Patent has been filed in the following country:

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The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

AND, WHEREAS,

Corporation Name	Complete Address
SNECMA	SNECMA 2 Boulevard du Général Martial Valin 75015 PARIS FRANCE

(Hereinafter referred to as the Assignee[s]) is/are desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the aforementioned applications for Letters Patent on this invention and the Letters Patent to be issued upon these applications;

NOW THEREFORE, be it known that for and in consideration of One EURO (€1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, I, the Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all relssues thereof, and all rights to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country and all Letters Patent that may be granted on this invention in any country, and all extensions, renewals, and relssues thereof; and I hereby authorize and request the Commissioners of Patents (or other appropriate official whose duty is to issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I HEREBY further covenant and agree that I will communicate with the Assignee[s], its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee[s], its/their successors or assigns, execute all divisional, continuation, reissue, and re-examination applications, make all rightful oaths and generally do everything possible to ald the Assignee[s], its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee[s] or its/their successors, any expense incident to the performance of the obligations of the present paragraph shall be borne by the Assignee[s], its/their successors, and assigns.

This Assignment agreement is effective as of the earliest filing date mentioned above.

AND, I/WE HEREBY acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

IN TESTIMONY WHEREOF, I HAVE SIGNED:

	Inventor Name & S	ignature	Witness Name & Signature
1724 13th, Gen 2013	nneu: //res Alain GRANDIN		Plu Cppe CHABANEIX

Worldwide Assignment & US Declaration (37 CFR 1.63) for utility or design application using an application data sheet (37 CFR 1.76)

As a below named inventor, I hereby declare that, I

Inventor Name	Complete Address
MOUGAMADOU ABOUDALCADAR Maidin	58 boulevard de la Guyane 94160 SAINT MANDE FRANCE

(Hereinafter referred to as the Assignor) have made an invention entitled:

Title of Invention (In French)	
PROCEDE DE FABRICATION D'UN NOYAU CERAMIQUE POUR AUBE MOBILE, NOYAU CERAMIQUE, AUBE MOBILE	
Title of Invention (in English)	
METHOD OF MANUFACTURING A CERAMIC CORE FOR MOBILE BLADE, CERAMIC CORE AND MOBILE B	LADE

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The above-identified application(s) was/were made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application,

AND, WHEREAS,

Corporation Name	Complete Address
SNECMA	SNECMA 2 Boulevard du Général Martial Valin 75015 PARIS FRANCE
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NOW THEREFORE, be it known that for and in consideration of One EURO (€1.00) and other good and valuable consideration, the receipt and sufficiency of which from the Assignee[s] is hereby acknowledged, by these presents, I, the Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer and set over unto the Assignee[s], its/their lawful successors and assigns, my entire right, title, and interest in and to this invention and these applications, and all divisions, and continuations thereof, and all Letters Patent that may be granted thereon, and all reissues thereof, and all rights to claim priority on these of such applications, and all applications for Letters Patent that may hereafter be filed for this invention in any country, and all Letters Patent that may be granted on this Invention in any country, and all extensions, renewals, and resissues thereof; and I hereby authorize and request the Commissioners of Patents (or other appropriate official whose duty is to Issue patents) of the United States, Canada, and any other country, to issue Letters Patent for this invention to the Assignee[s], its/their successors and assigns, in accordance with the terms of this Assignment;

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I HEREBY further covenant and agree that I will communicate with the Assignee[s], its/their successors and assigns, any facts known to me respecting this invention, testify in any legal proceedings, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee[s], its/their successors or assigns, execute all divisional, continuation, reissue, and re-examination applications, make all rightful oaths and generally do everything possible to aid the Assignee[s], its/their successors and assigns, to obtain and enforce proper patent protection for this invention in any country, it being understood that, irrespective of whether I am in the employ of the Assignee[s] or its/their successors, and assigns.

This Assignment agreement is effective as of the earliest filing date mentioned above.

AND, I/WE HEREBY acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

IN TESTIMONY WHEREOF, I HAVE SIGNED:

Date , j	Place	Inventor Name & Signature	Witness Name & Signature
My 13 M) 2013	Gennesilliss	Maldin MOUGAMADOU ABOUDALCADAR	Philippe CHABANEIX