#### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6243565

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
JOERG FRISCHBIER	06/22/2020
KARL MAAR	06/10/2020
HERMANN KLINGELS	06/17/2020
MARTIN PERNLEITNER	06/16/2020
JENS WITTMER	06/15/2020

#### **RECEIVING PARTY DATA**

Name:	MTU AERO ENGINES AG	
Street Address:	DACHAUER STRASSE 665	
City:	MUENCHEN	
State/Country:	GERMANY	
Postal Code:	80995	

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16793717

#### **CORRESPONDENCE DATA**

**Fax Number:** (212)736-2427

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.

Email: ddk@ddkpatent.com

Correspondent Name: DAVIDSON, DAVIDSON & KAPPEL, LLC

Address Line 1: 589 EIGHTH AVE, 22ND FL
Address Line 4: NEW YORK, NEW YORK 10018

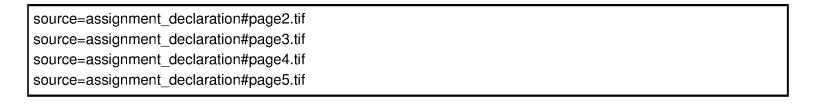
ATTORNEY DOCKET NUMBER:	5038.1343	
NAME OF SUBMITTER:	WILLIAM C. GEHRIS, REG. NO. 38156	
SIGNATURE:	/williamcgehris/	
<b>DATE SIGNED:</b> 08/11/2020		
	This document serves as an Oath/Declaration (37 CFR 1.63).	

**Total Attachments: 5** 

source=assignment\_declaration#page1.tif

PATENT REEL: 053450 FRAME: 0962

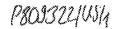
506196826



Title of Invention: SHROUDLESS BLADE FOR A HIGH-SPEED TURBINE STAGE

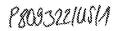
Attorney Docket No.: 5038,1343
This assignment and declaration are directed to (check one):  the attached application; the application identified by the attorney docket no. and title of invention given above; United States Application or PCT International Application No.16/793,717, filed February 18, 2020.
ASSIGNMENT
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and hereby sell and assign, to:
Name of Assignee: MTU Aero Engines AG
Address of Assignee: Dachauer Strasse 665, D-80995 Muenchen, Germany
(hereinafter ASSIGNEE) all right, title, and interest in and to the above-identified invention and United States patent application, including: (i) any and all divisions or continuations thereof, and in and to any and all Letters Patent of the United States that may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such Letters Patent may be granted; (ii) all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted; and (iii) all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted.
I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors, or assigns in accordance herewith.
I warrant and covenant that I have the right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith.
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing Letters Patent of the United States and any and all patents, utility models, designs or other rights that may be granted in the United States or of any country or countries foreign to the United States, for said invention.
<u>DECLARATION</u>
As a below-named inventor, I hereby declare that:
The above-identified application was 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.
I 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.  Signature:
Inventor: Here FRISCHBIER Date: Topo 2020

Page 1 of 1



Title of Invention: SHROUDLESS BLADE FOR A HIGH-SPEED TURBINE STAGE

Attorney Docket No.: 5038,1343	
This assignment and declaration are directed to (check one):  the attached application; the application identified by the attorney docket no. and title of invention given above; United States Application or PCT International Application No. 16/793,717, filed February 18, 2020.	
<u>ASSIGNMENT</u>	
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and hereby sell and assign, to:	
Name of Assignee: MTU Aero Engines AG	
Address of Assignee: Dachauer Strasse 665, D-80995 Muenchen, Germany	
(hereinafter ASSIGNEE) all right, title, and interest in and to the above-identified invention and United States patent application, including: (i) any and all divisions or continuations thereof, and in and to any and all Letters Patent of the United States that may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such Letters Patent may be granted; (ii) all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted; and (iii) all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted.	
Thereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors, or assigns in accordance herewith.	
I warrant and covenant that I have the right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith.	
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing Leiters Patent of the United States and any and all patents, utility models, designs or other rights that may be granted in the United States or of any country or countries foreign to the United States, for said invention.	
DECLARATION	
As a below-named inventor, I hereby declare that:	
The above-identified application was 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.	
I 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.	
Signature: \[ \langle \alpha \frac{\alpha \gamma}{\alpha \frac{\alpha \gamma}{\alpha \gamma}} \]	
Inventor: Karl MAAR Date: 10. Juni 2020	



Title of Invention: SHROUDLESS BLADE FOR A HIGH-SPEED TURBINE STAGE

Attorney Docket No.: 5038.1343	
This assignment and declaration are directed to (check one):	
<ul> <li>☐ the attached application;</li> <li>☐ the application identified by the attorney docket no, and title of invention given above;</li> <li>☑ United States Application or PCT International Application No.16/793,717, filed February 18, 2020.</li> </ul>	
<u>ASSIGNMENT</u>	
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and hereby sell and assign, to:	
Name of Assignee: MTU Aero Engines AG	
Address of Assignee: Dachauer Strasse 665, D-80995 Muenchen, Germany	
(hereinafter ASSIGNEE) all right, title, and interest in and to the above-identified invention and United States patent application, including: (i) any and all divisions or continuations thereof, and in and to any and all Letters Patent of the United States that may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such Letters Patent may be granted; (ii) all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted; and (iii) all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted.	
I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors, or assigns in accordance herewith.	
I warrant and covenant that I have the right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith.	
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing Letters Patent of the United States and any and all patents, utility models, designs or other rights that may be granted in the United States or of any country or countries foreign to the United States, for said invention.	
<u>DECLARATION</u>	
As a below-named inventor, I hereby declare that:	
The above-identified application was 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.	
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine of imprisonment of not more than five (5) years, or both.  Signature:	
Inventor: Hermann KLINGELS Date: 17 3/100 2000	

Page 1 of 1

Title of Invention: SHROUDLESS BLADE FOR A HIGH-SPEED TURBINE STAGE

Attorney Docket No.: 5038.1343	
This assignment and declaration are directed to (check one):  the attached application; the application identified by the attorney docket no. and title of invention given above; United States Application or PCT International Application No.16/793,717, filed February 18, 2020.	
ASSIGNMENT	
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and hereby sell and assign, to:	
Name of Assignee: MTU Aero Engines AG	
Address of Assignee: Dachauer Strasse 665, D-80995 Muenchen, Germany	
(hereinafter ASSIGNEE) all right, title, and interest in and to the above-identified invention and United States patent application, including : (i) any and all divisions or continuations thereof, and in and to any and all Letters Patent of the United States that may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such Letters Patent may be granted; (ii) all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted; and (iii) all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted.	
I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all such Leiters Patent to said ASSIGNEE, its successors, or assigns in accordance herewith.	
I warrant and covenant that I have the right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith.	
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing Letters Patent of the United States and any and all patents, utility models, designs or other rights that may be granted in the United States or of any country or countries foreign to the United States, for said invention.	
DECLARATION	
As a below-named inventor, I hereby declare that:	
The above-identified application was 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.	
I 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.	
Signature: //// //// Martin PERNLEITNER	
Inventor: Martin PERNLEITNER Date: 16.6.2020	

Page 1 of 1

Title of Invention: SHROUDLESS BLADE FOR A HIGH-SPEED TURBINE STAGE

Attorney Docket No.: 5038.1343	
This assignment and declaration are directed to (check one):  the attached application; the application identified by the attorney docket no. and title of invention given above; United States Application or PCT International Application No. 16/793,717, filed February 18, 2020.	
ASSIGNMENT	
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and hereby sell and assign, to:	
Name of Assignee: MTU Aero Engines AG	
Address of Assignee: Dachauer Strasse 665, D-80995 Muenchen, Germany	
(hereinafter ASSIGNEE) all right, title, and interest in and to the above-identified invention and United States patent application, including: (i) any and all divisions or continuations thereof, and in and to any and all Letters Patent of the United States that may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such Letters Patent may be granted; (ii) all applications for patents, utility models, and designs which may hereafter be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted; and (iii) all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents, utility models, designs or other rights may be granted.	
I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all such Letters Patent to said ASSIGNEE, its successors, or assigns in accordance herewith.	
I warrant and covenant that I have the right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith.	
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing Letters Patent of the United States and any and all patents, utility models, designs or other rights that may be granted in the United States or of any country or countries foreign to the United States, for said invention.	
DECLARATION	
As a below-named inventor, I hereby declare that:	
The above-identified application was 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.	
I 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.	
Signature:	
Inventor: Jens WITTMER Date: June 1514 2020	

Page 1 of 1

**RECORDED: 08/11/2020**