#### 504912254 05/14/2018

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4958998

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
JOHAN RICHAUD	11/10/2015
MARTIN KREIERHOFF	11/10/2015
CHRISTIAN WARMERS	11/10/2015

### **RECEIVING PARTY DATA**

Name:	VESUVIUS USA CORPORATION
Street Address:	1404 NEWTON DRIVE
City:	CHAMPAIGN
State/Country:	ILLINOIS
Postal Code:	61824

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

Property Type	Number
PCT Number:	EP1676917

### CORRESPONDENCE DATA

Fax Number: (412)429-3448

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.

Phone: 412-429-1800

Email: thomas.clinton@vesuvius.com

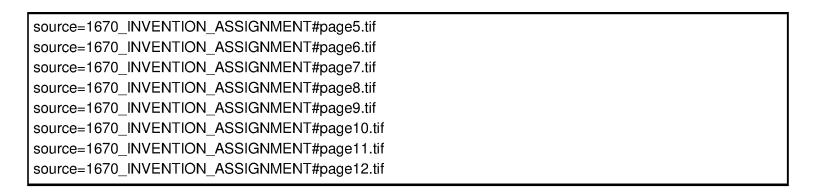
**Correspondent Name:** THOMAS CLINTON Address Line 1: 250 PARK WEST DRIVE

Address Line 4: PITTSBURGH, PENNSYLVANIA 15275

ATTORNEY DOCKET NUMBER:	1670
NAME OF SUBMITTER:	THOMAS CLINTON
SIGNATURE:	/Thomas Clinton/
DATE SIGNED:	05/14/2018

## **Total Attachments: 12**

source=1670\_INVENTION\_ASSIGNMENT#page1.tif source=1670\_INVENTION\_ASSIGNMENT#page2.tif source=1670\_INVENTION\_ASSIGNMENT#page3.tif source=1670 INVENTION ASSIGNMENT#page4.tif



# **ASSIGNMENT OF RIGHTS IN INVENTION**

THIS AGREEMENT is made this day 10th of November 2015

#### BETWEEN

Christian Warmers of Sachsenstrasse 3, 46414 Rhede, GERMANY hereinafter referred to as the "ASSIGNOR"; and

VESUVIUS GmbH having an office at Gelsenkirchener Strasse 10, 46325 Borken, GERMANY hereinafter referred to as "VESUVIUS GmbH" and the "EMPLOYER"; and

**VESUVIUS CRUCIBLE COMPANY**, a Delaware corporation, having a registered address of 1209 Orange Street, Wilmington, Delaware 19801, hereinafter referred to as the "ASSIGNEE".

### WHEREAS:

- (A) During his employment by VESUVIUS GmbH, the ASSIGNOR developed an Invention (as hereinafter defined) in collaboration with Martin KREIERHOFF and RICHAUD Johan (hereafter referred to as "co-inventors") both respectively employed by VESUVIUS GmbH and VESUVIUS France, an affiliated company of VESUVIUS GmbH.
- (B) In consideration of the inventor's continued employment by VESUVIUS GmbH, the invention is assigned to the employer and VESUVIUS GmbH has elected not to take assignment of the Invention but agreed that the ASSIGNOR should offer the Invention to VESUVIUS CRUCIBLE COMPANY an affiliated company of VESUVIUS GmbH. The ASSIGNEE has elected to take assignment of the Invention and therefore the parties have agreed to enter into this Assignment agreement to formalise their hitherto verbal agreements.

**NOW THEREFORE** in consideration of the premises and covenants hereinafter set forth the parties hereto agree as follows:

### 1. DEFINITIONS

1.1 In this Agreement (including the Recitals) the following words and expressions shall have the following meanings:-

"the Invention"

shall mean the invention entitled "Casting nozzle comprising flow deflectors" and filed as

a patent under the VESUVIUS reference 1670

"Property Rights"

all or any know-how designs drawings copyrights ideas trade secrets calculations

1670 Assignment Christian Warmers

formulae and any other form of intellectual property rights relating to the Invention which are vested in the ASSIGNOR (in whole or in part) or of which the ASSIGNOR has the free right to dispose.

"IPR Registration(s)"

shall mean any and all patents, utility models

or industrial designs.

"VIAP"

shall mean the Vesuvius Inventor Awards Program, as set forth in the Vesuvius Inventor Awards Program Policy, effective date 19th December 2012, as may be amended from

time to time.

"affiliated company"

shall mean any company which at any time during the term of this Agreement directly or indirectly controls or is controlled by, or is under common control of the ASSIGNEE.

- 1.2 Reference to legislative provisions shall be construed as references to those provisions as they shall have been respectively amended or re-enacted or as their application has been modified by other provisions up to the date of this Agreement.
- 1.3 All words denoting the singular number only shall include the plural and vice versa.
- 1.4 Headings to clauses in this Agreement are included for the purpose of ease of reference only and shall not have any effect on construction and interpretation.

#### 2. **ASSIGNOR WARRANTIES**

The ASSIGNOR warrants that:

- 2.1 together with the co-inventors, they are the true and first inventors of the invention and are not aware of any lawful ground of objection to the grant of an IPR Registration in respect thereof nor have they committed any action or deed whereby the right to apply for an IPR Registration has been impugned; and
- 2.2 the Invention has been made by the ASSIGNOR in the course of his employment by VESUVIUS GbmH; and
- 2.3 the ASSIGNOR is entitled to be named as inventor in any application for any IPR Registration in any country or territory of the world; and
- 2.4 he is entitled to make the assignments made hereunder.

### 3. ASSIGNMENT

- 3.1 The ASSIGNOR hereby assigns absolutely to the ASSIGNEE with effect from the date hereof all of his right title and interest in the Invention and the Property Rights including the right of the ASSIGNEE to file for IPR Registration protection in all countries.
- 3.2 The ASSIGNOR undertakes and agrees that he shall at the expense of the ASSIGNEE promptly sign confirm authenticate or otherwise execute any forms declarations papers or other instruments which may be required by the ASSIGNEE in order to give effect to the provisions of Clause 3.1 above.

### 4. IPR REGISTRATIONS

The ASSIGNEE shall be solely responsible for the filing prosecution and maintenance of any IPR Registrations. The ASSIGNOR undertakes and agrees that he shall provide such reasonable assistance (including the furnishing of advice, data and documents) as the ASSIGNEE may reasonably request (and at the expense of the ASSIGNEE) in order to assist the ASSIGNEE in the filing prosecution and maintenance of the IPR Registrations.

# 5. **CONSENT**

VESUVIUS GmbH as employer of the ASSIGNOR at the time of the development of the Invention hereby consents and agrees to the Assignment hereunder.

# 6 VESUVIUS INVENTOR AWARDS PROGRAM

In consideration of participation in the Vesuvius Inventor Awards Program ("VIAP") and payments to be made thereunder, the ASSIGNOR hereby agrees:

- 6.1 that he has read and understood the VIAP Policy (effective date 19th December 2012) which is valid as of the date of signature of this Assignment and regulates the rights and obligations relating to inventorship rewards and remuneration; and
- 6.2 to abide by the terms and conditions of the VIAP policy (effective date 19th December 2012); and
- 6.3 to be a participant in VIAP in relation to this Assignment and as a co-inventor his Relative Contribution for the purpose of VIAP is 33,33%.

### 7. WAIVER

The ASSIGNOR hereby waives absolutely all rights and entitlement in relation to inventorship remuneration under applicable national laws in lieu of participation in and payments made under VIAP to him.

For the avoidance of doubt, the covenants in Clauses 6 and 7 of this Assignment shall override national laws where it is legally permitted to do so.

# 8. GOVERNING LAW AND JURISDICTION

This Agreement shall be governed by and construed and interpreted in accordance with the laws of Germany and the parties hereby submit to the jurisdiction of the German Courts.

AS WITNESS the hands of the duly authorised representatives of the parties hereto the day and year first above written.

SIGNED BY

**Christian Warmers the "ASSIGNOR"** 

Signature	Christia, h
Print Name	Christian Warwell

SIGNED BY VESUVIUS CRUCIBLE COMPANY the "ASSIGNEE"

	a	
Signature	Donald Satura	
Print Name	DONALD SATINA	

SIGNED BY VESUVIUS GmbH "THE EMPLOYER"

Signature	Did for M	79-89-2012
Print Name	Dirk Höckendorff	

3

# ASSIGNMENT OF RIGHTS IN INVENTION

THIS AGREEMENT is made this day 10th of November 2015

### BETWEEN

Martin Krelerhoff of Doornte 21a, 46354 SUEDLOHN, GERMANY hereinafter referred to as the "ASSIGNOR"; and

VESUVIUS GmbH having an office at Gelsenkirchener Strasse 10, 46325 Borken, GERMANY hereinafter referred to as "VESUVIUS GmbH" and the "EMPLOYER"; and

VESUVIUS CRUCIBLE COMPANY, a Delaware corporation, having a registered address of 1209 Orange Street, Wilmington, Delaware 19801, hereinafter referred to as the "ASSIGNEE".

## WHEREAS:

- (A) During his employment by VESUVIUS GmbH, the ASSIGNOR developed an Invention (as hereinafter defined) in collaboration with Christian Warmers and RICHAUD Johan (hereafter referred as "co-inventors") both respectively employed by VESUVIUS GmbH and VESUVIUS France, an affiliated company of VESUVIUS GmbH.
- (B) In consideration of the inventor's continued employment by VESUVIUS GmbH, the invention is assigned to the employer and VESUVIUS GmbH has elected not to take assignment of the invention but agreed that the ASSIGNOR should offer the invention to VESUVIUS CRUCIBLE COMPANY an affiliated company of VESUVIUS GmbH. The ASSIGNEE has elected to take assignment of the invention and therefore the parties have agreed to enter into this Assignment agreement to formalise their hitherto verbal agreements.

NOW THEREFORE in consideration of the premises and covenants hereinafter set forth the parties hereto agree as follows:

#### DEFINITIONS

1.1 In this Agreement (including the Recitals) the following words and expressions shall have the following meanings:-

"the invention"

shall mean the invention entitled "Casting nazzle comprising flow deflectors" and filed as a patent under the VESUVIUS reference 1670

"Property Rights"

all or any know-how designs drawings copyrights ideas trade secrets calculations

1670 Assignment Martin KREIERHOFF

formulae and any other form of intellectual property rights relating to the Invention which are vested in the ASSIGNOR (in whole or in part) or of which the ASSIGNOR has the free right to dispose.

"IPR Registration(s)"

shall mean any and all patents, utility models or industrial designs.

"VIAP"

shall mean the Vesuvius Inventor Awards Program, as set forth in the Vesuvius Inventor Awards Program Policy, effective date 19th December 2012, as may be amended from time to time.

"affiliated company"

shall mean any company which at any time during the term of this Agreement directly or indirectly controls or is controlled by, or is under common control of the ASSIGNEE.

- 1.2 Reference to legislative provisions shall be construed as references to those provisions as they shall have been respectively amended or re-enacted or as their application has been modified by other provisions up to the date of this Agreement.
- 1.3 All words denoting the singular number only shall include the plural and vice versa.
- 1.4 Headings to clauses in this Agreement are included for the purpose of ease of reference only and shall not have any effect on construction and interpretation.

### 2. ASSIGNOR WARRANTIES

The ASSIGNOR warrants that:

- 2.1 together with the co-inventors, they are the true and first inventors of the Invention and are not aware of any lawful ground of objection to the grant of an IPR Registration in respect thereof nor have they committed any action or deed whereby the right to apply for an IPR Registration has been impugned; and
- 2.2 the Invention has been made by the ASSIGNOR in the course of his employment by VESUVIUS GbmH; and
- 2.3 the ASSIGNOR is entitled to be named as inventor in any application for any IPR Registration in any country or territory of the world; and
- 2.4 he is entitled to make the assignments made hereunder.

### 3. ASSIGNMENT

- 3.1 The ASSIGNOR hereby assigns absolutely to the ASSIGNEE with effect from the date hereof all of his right title and interest in the invention and the Property Rights including the right of the ASSIGNEE to file for IPR Registration protection in all countries.
- 3.2 The ASSIGNOR undertakes and agrees that he shall at the expense of the ASSIGNEE promptly sign confirm authenticate or otherwise execute any forms declarations papers or other instruments which may be required by the ASSIGNEE in order to give effect to the provisions of Clause 3.1 above.

### 4. IPR REGISTRATIONS

The ASSIGNEE shall be solely responsible for the filing prosecution and maintenance of any IPR Registrations. The ASSIGNOR undertakes and agrees that he shall provide such reasonable assistance (including the furnishing of advice, data and documents) as the ASSIGNEE may reasonably request (and at the expense of the ASSIGNEE) in order to assist the ASSIGNEE in the filing prosecution and maintenance of the IPR Registrations.

### 5. **CONSENT**

VESUVIUS GmbH as employer of the ASSIGNOR at the time of the development of the Invention hereby consents and agrees to the Assignment hereunder.

### 6 VESUVIUS INVENTOR AWARDS PROGRAM

In consideration of participation in the Vesuvius Inventor Awards Program ("VIAP") and payments to be made thereunder, the ASSIGNOR hereby agrees:

- that he has read and understood the VIAP Policy (effective date 19th December 2012) which is valid as of the date of signature of this Assignment and regulates the rights and obligations relating to inventorship rewards and remuneration; and
- to abide by the terms and conditions of the VIAP policy (effective date 19th December 2012); and
- 6.3 to be a participant in VIAP in relation to this Assignment and as a co-inventor his Relative Contribution for the purpose of VIAP is 33,33%.

## 7. WAIVER

The ASSIGNOR hereby waives absolutely all rights and entitlement in relation to inventorship remuneration under applicable national laws in lieu of participation in and payments made under VIAP to him.

1670 Assignment Martin KREIERHOFF

2

For the avoidance of doubt, the covenants in Clauses 6 and 7 of this Assignment shall override national laws where it is legally permitted to do so.

## 8. GOVERNING LAW AND JURISDICTION

This Agreement shall be governed by and construed and interpreted in accordance with the laws of Germany and the parties hereby submit to the jurisdiction of the German Courts.

**AS WITNESS** the hands of the duly authorised representatives of the parties hereto the day and year first above written.

<u>SIGNED</u> BY Martin KREIERH	IOFF the "ASSIGNOR"	
Signature	Sofi dents	
Print Name	KREIERKOFF	

SIGNED BY VESUVIUS CRUCIBLE COMPANY the "ASSIGNEE"

Signature	Donald Saturia
Print Name	DONALD SATINA

SIGNED BY VESUVIUS GmbH "THE EMPLOYER"

Signature	Del thee toll	29-09 - 2017
Print Name	Dirk Hockendorff	

## ASSIGNMENT OF RIGHTS IN INVENTION

THIS AGREEMENT is made this day 10th of November 2015

### <u>BETWEEN</u>

Johan Richaud of Chemin des Mulets, 320A, 84460 Cheval Blanc, FRANCE hereinafter referred to as the "ASSIGNOR"; and

**VESUVIUS FRANCE**, **SA**, of Rue Paul Deudon 68, 59750 Feignies, FRANCE hereinafter referred to as "**VESUVIUS France**" and the "**EMPLOYER**"; and

**VESUVIUS CRUCIBLE COMPANY**, a Delaware corporation, having a registered address of 1209 Orange Street, Wilmington, Delaware 19801, hereinafter referred to as the "**ASSIGNEE**".

## WHEREAS:

- (A) During his employment by **VESUVIUS France**, the ASSIGNOR developed an Invention (as hereinafter defined) in collaboration with **Martin Kreierhoff** and **Christian WARMERS** (hereafter referred as the "co-inventors") both employees of VESUVIUS GmbH an affiliated company of VESUVIUS France.
- (B) In consideration of the inventor's continued employment by VESUVIUS France, the invention is assigned to the employer and VESUVIUS France has elected not to take assignment of the Invention but agreed that the ASSIGNOR should offer the Invention to VESUVIUS CRUCIBLE COMPANY an affiliated company of VESUVIUS France. The ASSIGNEE has elected to take assignment of the Invention and therefore the parties have agreed to enter into this Assignment agreement to formalise their hitherto verbal agreements.

**NOW THEREFORE** in consideration of the premises and covenants hereinafter set forth the parties hereto agree as follows:

### 1. **DEFINITIONS**

1.1 In this Agreement (including the Recitals) the following words and expressions shall have the following meanings:-

"the Invention" shall mean the invention entitled "Casting

nozzle comprising flow deflectors" and filed as a patent under the VESUVIUS reference 1670

"Property Rights" all or any know-how designs drawings

copyrights ideas trade secrets calculations

FA

formulae and any other form of intellectual property rights relating to the invention which are vested in the ASSIGNOR (in whole or in part) or of which the ASSIGNOR has the free right to dispose.

"IPR Registration(s)"

shall mean any and all patents, utility models

or industrial designs.

"VIAP"

shall mean the Vesuvius Inventor Awards Program, as set forth in the Vesuvius Inventor Awards Program Policy, effective date 19th December 2012, as may be amended from

time to time.

"affiliated company"

shall mean any company which at any time during the term of this Agreement directly or indirectly controls or is controlled by, or is under common control of the ASSIGNEE.

- 1.2 Reference to legislative provisions shall be construed as references to those provisions as they shall have been respectively amended or re-enacted or as their application has been modified by other provisions up to the date of this Agreement.
- 1.3 All words denoting the singular number only shall include the plural and vice versa.
- 1.4 Headings to clauses in this Agreement are included for the purpose of ease of reference only and shall not have any effect on construction and interpretation.

#### 2. **ASSIGNOR WARRANTIES**

The ASSIGNOR warrants that:

- 2.1 together with the co-inventors, they are the true and first inventors of the Invention and are not aware of any lawful ground of objection to the grant of an IPR Registration in respect thereof nor have they committed any action or deed whereby the right to apply for an IPR Registration has been impugned; and
- 2.2 the Invention has been made by the ASSIGNOR in the course of his employment by VESUVIUS France; and
- 2.3 the ASSIGNOR is entitled to be named as inventor in any application for any IPR Registration in any country or territory of the world; and
- 2.4 he is entitled to make the assignments made hereunder.

### ASSIGNMENT

- 3.1 The ASSIGNOR hereby assigns absolutely to the ASSIGNEE with effect from the date hereof all of his right title and interest in the Invention and the Property Rights including the right of the ASSIGNEE to file for IPR Registration protection in all countries.
- 3.2 The ASSIGNOR undertakes and agrees that he shall at the expense of the ASSIGNEE promptly sign confirm authenticate or otherwise execute any forms declarations papers or other instruments which may be required by the ASSIGNEE in order to give effect to the provisions of Clause 3.1 above.

### 4. IPR REGISTRATIONS

The ASSIGNEE shall be solely responsible for the filing prosecution and maintenance of any IPR Registrations. The ASSIGNOR undertakes and agrees that he shall provide such reasonable assistance (including the furnishing of advice, data and documents) as the ASSIGNEE may reasonably request (and at the expense of the ASSIGNEE) in order to assist the ASSIGNEE in the filing prosecution and maintenance of the IPR Registrations.

### CONSENT

VESUVIUS France as employer of the ASSIGNOR at the time of the development of the Invention hereby consents and agrees to the Assignment hereunder.

### 6 VESUVIUS INVENTOR AWARDS PROGRAM

In consideration of participation in the Vesuvius Inventor Awards Program ("VIAP") and payments to be made thereunder, the ASSIGNOR hereby agrees:

- 6.1 that he has read and understood the VIAP Policy (effective date 19th December 2012) which is valid as of the date of signature of this Assignment and regulates the rights and obligations relating to inventorship rewards and remuneration; and
- 6.2 to abide by the terms and conditions of the VIAP policy (effective date 19<sup>th</sup> December 2012); and
- 6.3 to be a participant in VIAP in relation to this Assignment and as a co-inventor his Relative Contribution for the purpose of VIAP is 33,33%.

## 7. WAIVER

The ASSIGNOR hereby waives absolutely all rights and entitlement in relation to inventorship remuneration under applicable national laws in lieu of participation in and payments made under VIAP to him.

2

1670 Assignment Johan Richaud

FA

For the avoidance of doubt, the covenants in Clauses 6 and 7 of this Assignment shall override national laws where it is legally permitted to do so.

#### 8. **GOVERNING LAW AND JURISDICTION**

This Agreement shall be governed by and construed and interpreted in accordance with the laws of France and the parties hereby submit to the jurisdiction of the French Courts.

AS WITNESS the hands of the duly authorised representatives of the parties hereto the day and year first above written.

SIGNED BY Johan RICHAUI	O the "ASSIGNOR"	
Signature	JOHAN RICHARD	
Print Name	JOHN RICHAD A	
SIGNED BY VESUVIUS CRUCIBLE COMPANY the "ASSIGNEE"		
Signature	Donald Satina	
Print Name	DONALD SATINA	
SIGNED BY VESUVIUS France the "EMPLOYER"		
Signature		
Print Name	/// Frederic Marial	

3

1670 Assignment Johan Richaud

RECORDED: 05/14/2018