

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5640523

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DAVID SAWYER	02/24/2016
KENNETH BIRDWELL	02/26/2016
KENNETH BARNETT	05/26/2017
TRISTAN REIDFORD	02/24/2016
AARON LEIBY	02/24/2016
EMILY RIDGWAY	02/24/2016
ALEXANDER C. VLACHOS	02/24/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	VALVE CORPORATION
<b>Street Address:</b>	10900 NE 4TH ST.
<b>Internal Address:</b>	SUITE 500
<b>City:</b>	BELLEVUE
<b>State/Country:</b>	WASHINGTON
<b>Postal Code:</b>	98004
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16353422
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(509)323-8979
<i>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.</i>	
<b>Phone:</b>	2068766038
<b>Email:</b>	LAURA.BISHOP@LEE HAYES.COM
<b>Correspondent Name:</b>	CHAMPAGNE MAC
<b>Address Line 1:</b>	601 W. RIVERSIDE AVE.
<b>Address Line 2:</b>	SUITE 1400
<b>Address Line 4:</b>	SPOKANE, WASHINGTON 99201
<b>ATTORNEY DOCKET NUMBER:</b>	V059-0054USC1
<b>NAME OF SUBMITTER:</b>	LAURA BISHOP
<b>SIGNATURE:</b>	/Laura Bishop/

PATENT

<b>DATE SIGNED:</b>	07/29/2019
<b>Total Attachments: 14</b> source=2527692#page1.tif source=2527692#page2.tif source=2527692#page3.tif source=2527692#page4.tif source=2527692#page5.tif source=2527692#page6.tif source=2527692#page7.tif source=2527692#page8.tif source=2527692#page9.tif source=2527692#page10.tif source=2527692#page11.tif source=2527692#page12.tif source=2527692#page13.tif source=2527692#page14.tif	

# ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned:

**David Sawyer**

hereby sell, assign, and transfer to:

**Valve Corporation**

a Washington Corporation, having a principal place of business at 10900 NE 4th Street, Suite 500, Bellevue, WA 98004 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the applications for the United States patents that have been executed by the undersigned prior hereto on the dates indicated below and are entitled:

**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
IN VIRTUAL REALITY ENVIRONMENTS  
U.S. Application No. 14/933,955 – Filed November 5, 2015  
International Application PCT/US15/59329 - Filed November 5, 2015**

**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
IN VIRTUAL REALITY ENVIRONMENTS  
U.S. Application No. 62/126,695  
Filed March 1, 2015**

**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
IN VIRTUAL REALITY ENVIRONMENTS  
U.S. Application No. 62/075,742  
Filed November 5, 2014**

and in and to said applications and all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions and improvements; and in and to all original and reissued patents that have been or shall be issued in the United States and all foreign countries on said inventions and improvements; and in and to all rights of priority resulting from the filing of said United States applications, and in all subsequent PCT and foreign applications claiming priority to the United States applications;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its

successors, assigns, and legal representatives; and covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

### ASSIGNMENT

Titles of Inventions:

**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
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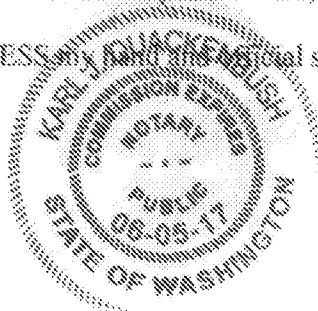
David Sawyer  
David Sawyer

2/24/16  
Date

State of Washington )  
 ) ss.  
County of King )

On Feb 24, 2016, before me, Karen Quackentony, Notary Public, personally appeared **David Sawyer** and proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



[Signature]  
Notary Public

# ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned:

**Kenneth Birdwell**

hereby sell, assign, and transfer to:

**Valve Corporation**

a Washington Corporation, having a principal place of business at 10900 NE 4th Street, Suite 500, Bellevue, WA 98004 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the applications for the United States patents that have been executed by the undersigned prior hereto on the dates indicated below and are entitled:

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and in and to said applications and all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions and improvements; and in and to all original and reissued patents that have been or shall be issued in the United States and all foreign countries on said inventions and improvements; and in and to all rights of priority resulting from the filing of said United States applications, and in all subsequent PCT and foreign applications claiming priority to the United States applications;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its

successors, assigns, and legal representatives; and covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

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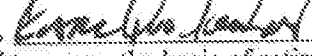
U.S. Application No. 62/075,742

Filed November 5, 2014

  
Kenneth Birdwell

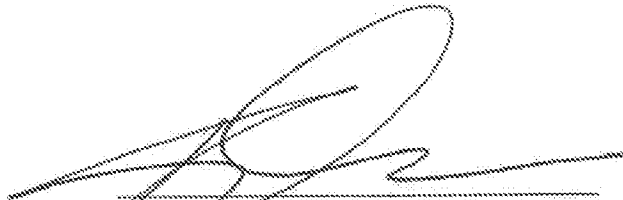
2-26-16  
Date

State of Washington )  
County of King ) ss.

On Feb 26, 2016, before me, , Notary Public, personally appeared **Kenneth Birdwell** and proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



  
Notary Public

# ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned:

**Kenneth Barnett**

hereby sell, assign, and transfer to:

**Valve Corporation**

a Washington Corporation, having a principal place of business at 10900 NE 4th Street, Suite 500, Bellevue, WA 98004 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the applications for the United States patents that have been executed by the undersigned prior hereto on the dates indicated below and are entitled:

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and in and to said applications and all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions and improvements; and in and to all original and reissued patents that have been or shall be issued in the United States and all foreign countries on said inventions and improvements; and in and to all rights of priority resulting from the filing of said United States applications, and in all subsequent PCT and foreign applications claiming priority to the United States applications;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its

successors, assigns, and legal representatives; and covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

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\_\_\_\_\_  
**Kenneth Barnett**

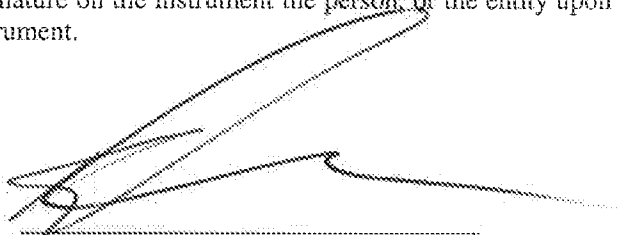
May 26 2017  
\_\_\_\_\_  
Date

State of Washington                    )  
  ) ss.  
County of King                        )

On May 26 2017, before me, Eric Quackenbush, Notary Public, personally appeared **Kenneth Barnett** and proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



  
\_\_\_\_\_  
Notary Public



# ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned:

**Tristan Reidford**

hereby sell, assign, and transfer to:

**Valve Corporation**

a Washington Corporation, having a principal place of business at 10900 NE 4th Street, Suite 500, Bellevue, WA 98004 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the applications for the United States patents that have been executed by the undersigned prior hereto on the dates indicated below and are entitled:

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and in and to said applications and all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions and improvements; and in and to all original and reissued patents that have been or shall be issued in the United States and all foreign countries on said inventions and improvements; and in and to all rights of priority resulting from the filing of said United States applications, and in all subsequent PCT and foreign applications claiming priority to the United States applications;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its

successors, assigns, and legal representatives; and covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

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U.S. Application No. 62/075,742

Filed November 5, 2013

Tristan Reidford  
Tristan Reidford

24th FEB 2016  
Date

State of Washington )  
County of King ) ss.

On Feb 24, 2016, before me, Karen Quackenbush, Notary Public, personally appeared Tristan Reidford and proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



[Signature]  
Notary Public

# ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned:

**Aaron Leiby**

hereby sell, assign, and transfer to:

**Valve Corporation**

a Washington Corporation, having a principal place of business at 10900 NE 4th Street, Suite 500, Bellevue, WA 98004 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the applications for the United States patents that have been executed by the undersigned prior hereto on the dates indicated below and are entitled:

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successors, assigns, and legal representatives; and covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

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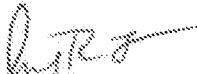
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Filed November 5, 2015

  
Aaron Leiby

24 Feb 2016  
Date

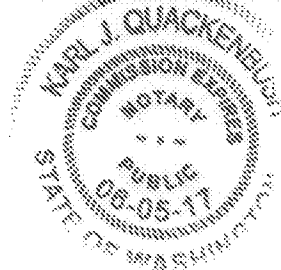
State of Washington )

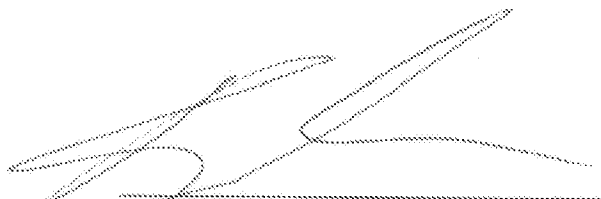
) ss.

County of King )

On February 24, 2016, before me, Karl J. Quackenberg, Notary Public, personally appeared Aaron Leiby and proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



  
Notary Public

# ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned:

**Emily Ridgway**

hereby sell, assign, and transfer to:

**Valve Corporation**

a Washington Corporation, having a principal place of business at 10900 NE 4th Street, Suite 500, Bellevue, WA 98004 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the applications for the United States patents that have been executed by the undersigned prior hereto on the dates indicated below and are entitled:

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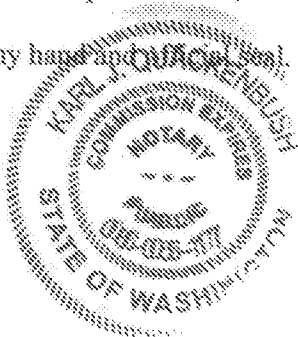
  
Emily Ridgway

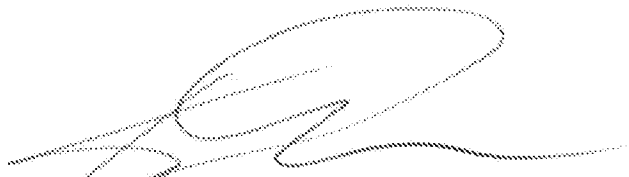
02/24/2016  
Date

State of Washington )  
 ) ss.  
County of King )

On Feb 24, 2016, before me, Karl J. Quackenberg, Notary Public, personally appeared Emily Ridgway and proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and seal.



  
Notary Public

# ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned:

**Alexander C. Vlachos**

hereby sell, assign, and transfer to:

**Valve Corporation**

a Washington Corporation, having a principal place of business at 10900 NE 4th Street, Suite 500, Bellevue, WA 98004 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the applications for the United States patents that have been executed by the undersigned prior hereto on the dates indicated below and are entitled:

**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
IN VIRTUAL REALITY ENVIRONMENTS  
U.S. Application No. 14/933,955 – Filed November 5, 2015  
International Application PCT/US15/59329 - Filed November 5, 2015**

**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
IN VIRTUAL REALITY ENVIRONMENTS  
U.S. Application No. 62/126,695  
Filed March 1, 2015**

**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
IN VIRTUAL REALITY ENVIRONMENTS  
U.S. Application No. 62/075,742  
Filed November 5, 2014**

and in and to said applications and all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions and improvements; and in and to all original and reissued patents that have been or shall be issued in the United States and all foreign countries on said inventions and improvements; and in and to all rights of priority resulting from the filing of said United States applications, and in all subsequent PCT and foreign applications claiming priority to the United States applications;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its

successors, assigns, and legal representatives; and covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

### ASSIGNMENT

Titles of Inventions:

**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
IN VIRTUAL REALITY ENVIRONMENTS**

U.S. Application No. 14/933,955 - Filed November 5, 2015

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**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
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**SENSORY FEEDBACK SYSTEMS AND METHODS FOR GUIDING USERS  
IN VIRTUAL REALITY ENVIRONMENTS**

U.S. Application No. 62/075,742

Filed November 5, 2013



Alexander C. Vlachos

2/27/2016

Date


State of Washington )

) ss.

County of King )

On February 24, 2016, before me, Karl R. Ruckelshaus, Notary Public, personally appeared Alexander C. Vlachos and proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

  
Notary Public