505240241 12/17/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5287021

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DAVID JOHN COPELAND	12/14/2018
TRAVIS MICHAEL BECKERLE	12/02/2018
JOSEPH GORDON	12/03/2018
BRUCE EDWARD FROHMAN	12/14/2018
MICHAEL WILLIAM METZ	12/14/2018
SAVANNAH GRACE KYLE	12/14/2018
KELSEY HILL	12/05/2018
MICHAEL SHANE MORRISSEY	11/16/2018

RECEIVING PARTY DATA

Name:	ST. JUDE MEDICAL, CARDIOLOGY DIVISION, INC.
Street Address:	177 EAST COUNTY ROAD B
City:	ST. PAUL
State/Country:	MINNESOTA
Postal Code:	55117

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15827401

CORRESPONDENCE DATA

Fax Number: (908)654-0415

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: (908) 518-6356

Email: assignment@lernerdavid.com

Correspondent Name: LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP

Address Line 1: 600 SOUTH AVENUE WEST

Address Line 4: WESTFIELD, NEW JERSEY 07090

ATTORNEY DOCKET NUMBER:	STJUDE 3.0F-392
NAME OF SUBMITTER:	MELINDA C. CORMIER
SIGNATURE:	/Melinda C. Cormier/

PATENT 505240241 REEL: 047796 FRAME: 0844

DATE SIGNED:	12/17/2018
Total Attachments: 8	
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PATENT REEL: 047796 FRAME: 0845

	former PTO/S8/15 (8-00) Modified LDLK& Docket Number (Optional)
ASSIGNMENT OF UTILITY APPLICATION	
	STJUDE 3.0F-392
Whereas, I, Michael Shane Morrissey	
1667 Highland Pkwy; St. Paul, Minnesota 55116	
hereafter referred to as assignor, have with others invented certain n	ew and useful improvements in
TRANSCATHETER DELIVERY SYSTEM WITH TRA	NSVERSE WHEEL ACTUATION
x for which an application for a United States Letters Patr	ent was filed on <u>November 30, 2017</u>
Application Number 15/827,401	
for which an application for a United States Letters Pater and	nt was executed by me on,
Whereas, St. Jude Medical, Cardiology Division, Inc. a corporation of Delaware herein referred to as "assignee" whose ma 177 East County Road B; St. Paul, Minnesota 55117	siling address is
is desirous of acquiring the entire right, title and interest in the same;	Name of the second seco
NOW, THEREFORE, in consideration of the sum of one of is acknowledged, and other good and valuable consideration, I as assignee my entire right, title and interest for the United States of invention and the aforesaid utility patent application and all orig substitute or reissue applications and patents applied for or granter other countries, for said invention, including without limitation all appriority or benefit of the aforesaid utility application pursuant to any priority or benefit and the Commissioner of Patents and Trademark patents on said improvements or resulting therefrom to said assignerand the undersigned for me and my legal representatives, heirs an further remuneration, to execute and deliver all original, divisional Letters Patent on said improvements and all assignments thereof its said assignee or its representatives all facts known to the under requested, to testify in any interferences or other legal proceedings become involved, to sign all lawful papers, make all rightful caths, become involved, to sign all lawful papers, make all rightful caths, assignee, its successors, assigns and nominees to obtain patent proceedings incident to said applications to be borne and paid by said at 1, as assigner, hereby assign to said assignee all of my right, title at No. 62/429.315; filed December 2, 2016, and in the invention disclosinght to claim priority or benefit of said Application No. 62/429.315 pworld.	of America and all other countries in and to said plast, divisional, continuation, continuation-in-part, of therefor in the United States of America and all oplications and patents for said invention claiming law or treaty, and including the right to claim such its is hereby authorized and requested to issue all its is hereby authorized and requested to issue all assigns do hereby agree and covenant without it, continuation, reissue and other applications for a said assignee or its assigns, to communicate to reigned respecting said improvements, whenever in which any of said applications or patents may and to do generally everything necessary to aid objection for said improvements in all countries, the saignee.
And I do hereby authorize my attorneys to insert on this deed the filli when known,	ng date and application number of said application
<u> </u>	(95316516)
State of Minge Survey) SS:	
County of	
On this <u>C</u> day of <u>Nortanger</u> , <u>2018</u> before me <u>Shane Morrissey</u> , to me personally known as the individual acknowledged to me that the same was executed by him/her of his/he	who executed the foregoing instrument, who li
(Notary Public)	
*Total of forms are submitted.	



former PTO/SB/15 (8-60) Modified LDLKSM

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ASSIGNMENT OF UTILITY APPLICATION	STJUDE 3.0F-392
Whereas, I, David John Copeland	of
4409 Mariborough Court; Minnetonka, Minnesota 55345	
hereafter referred to as assignor, have with others invented certain n	ew and useful improvements in
TRANSCATHETER DELIVERY SYSTEM WITH TRA	NSVERSE WHEEL ACTUATION
x for which an application for a United States Letters Pat	ent was filed on <u>November 30, 2017</u>
Application Number 15/827,401	
for which an application for a United States Letters Pate and	nt was executed by me on,
Whereas, St. Jude Medical, Cardiology Division, Inc.	
a corporation of Delaware herein referred to as "assignee" whose me	ailing address is
177 East County Road B; St. Paul, Minnesota 55117	
is desirous of acquiring the entire right, title and interest in the same;	
NOW, THEREFORE, in consideration of the sum of one of a scknowledged, and other good and valuable consideration, I as assignee my entire right, title and interest for the United States invention and the aforesaid utility patent application and all or substitute or reissue applications and patents applied for or grants other countries, for said invention, including without limitation all a priority or benefit of the aforesaid utility application pursuant to any priority or benefit and the Commissioner of Patents and Trademar patents on said improvements or resulting therefrom to said assigned and the undersigned for me and my legal representatives, heirs a further remuneration, to execute and deliver all original, divisions Letters Patent on said improvements and all assignments thereof said assignee or its representatives all facts known to the underequested, to testify in any interferences or other legal proceeding become involved, to sign all lawful papers, make all rightful oaths assignee, its successors, assigns and nominees to obtain patent prevences incident to said applications to be borne and paid by said at 1, as assignor, hereby assign to said assignee all of my right, title at No. 62/429.315, filed December 2, 2016, and in the invention discloright to claim priority or benefit of said Application No. 62/429.315 world.	of America and all other countries in and to said ginal, divisional, continuation, continuation-in-part, and therefor in the United States of America and all applications and patents for said invention claiming law or treaty, and including the right to claim such ks is hereby authorized and requested to issue all as herein, as assignee of the entire interest therein; and assigns do hereby agree and covenant without all, continuation, reissue and other applications for to said assignee or its assigns, to communicate to assigned respecting said improvements, whenever is in which any of said applications or patents may a nad to do generally everything necessary to aid rotection for said improvements in all countries, the assignee. and interest in United States Provisional Application sed thereto in all countries of the world including the
And I do hereby authorize my attorneys to insert on this deed the fil when known.	ling date and application number of said application
12/14/2785	(Signature)
State of Minnesota) ss:	d συνθα (correct g).
County of <u>Hennepin</u>)	
ا ملائ	personally came the above-named <u>David John</u> the foregoing instrument, who acknowledged to me e purposes therein set forth.
Total of forms are submitted.	



	Somer PTO/SB/15 (8-00) Modified LD
ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional)
2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	STJUDE 3.0F-392
Whereas, I, Travis Michael Beckerle	of
1624 Hague Avenue; St. Paul, Minnesota 55104	THE REAL PROPERTY OF THE PROPE
ereafter referred to as assignor, have with others invented certain n	ew and useful improvements in
TRANSCATHETER DELIVERY SYSTEM WITH TRA	NSVERSE WHEEL ACTUATION
x for which an application for a United States Letters Pat	
Application Number <u>15/827,401</u>	
for which an application for a United States Letters Pater and	nt was executed by me on,
/hereas, St. Jude Medical, Cardiology Division, Inc. corporation of Delaware herein referred to as "assignee" whose ma	illing address is
desirous of acquiring the entire right, title and interest in the same;	- Shannang water a special hannan hannan hannan bereit in the state of
acknowledged, and other good and valuable consideration, I as assignee my entire right, title and interest for the United States of vention and the aforesaid utility patent application and all originals are reissue applications and patents applied for or grantee ther countries, for said invention, including without limitation all assicity or benefit of the aforesaid utility application pursuant to any liority or benefit and the Commissioner of Patents and Trademark intents on said improvements or resulting therefrom to said assigned the undersigned for me and my legal representatives, heirs another remuneration, to execute and deliver all original, divisional effects Patent on said improvements and all assignments thereof to its assignee or its representatives all facts known to the undersignee or its representatives all facts known to the undersignee or its representatives all facts known to the undersignee or its representatives all facts known to the undersigned for the legal proceedings come involved, to sign all lawful papers, make all rightful paths.	TAMERICA and all other countries in and to said inal, divisional, continuation, continuation-in-part, it therefor in the United States of America and all plications and patents for said invention claiming aw or treaty, and including the right to claim such is is hereby authorized and requested to issue all a herein, as assignee of the entire interest therein; it assigns do hereby agree and covenant without continuation, reissue and other applications for said assignee or its assigns, to communicate to signed respecting said improvements, whenever
penses incident to said applications to be borne and paid by said as as assignor, hereby assign to said assignee all of my right title and	and to do generally everything necessary to aid tection for said improvements in all countries, the signee.
penses incident to said applications to be borne and paid by said as assignor, hereby assign to said assignee all of my right, title an 62/429,315, filed December 2, 2016, and in the invention disclose ht to claim priority or benefit of said Application No. 62/429,315 prodd. d I do hereby authorize my attorneys to insert on this deed the film	and to do generally everything necessary to aid tection for said improvements in all countries, the signee. d interest in United States Provisional Application of thereto in all countries of the world including the ursuant to any law or treaty in the countries of the
penses incident to said applications to be borne and paid by said as assignor, hereby assign to said assignee all of my right, title an 62/429,315, filed December 2, 2016, and in the invention disclose ht to claim priority or benefit of said Application No. 62/429,315 plotd. d I do hereby authorize my attorneys to insert on this deed the filing en known.	and to do generally everything necessary to aid tection for said improvements in all countries, the signee. d interest in United States Provisional Application of thereto in all countries of the world including the arsuant to any law or treaty in the countries of the g date and application number of said application
penses incident to said applications to be borne and paid by said as assignor, hereby assign to said assignee all of my right, title an 62/429,315, filed December 2, 2016, and in the invention disclose to claim priority or benefit of said Application No. 62/429,315 prid. d I do hereby authorize my attorneys to insert on this deed the filing en known.	and to do generally everything necessary to aid tection for said improvements in all countries, the signee. d interest in United States Provisional Application of thereto in all countries of the world including the ursuant to any law or treaty in the countries of the
penses incident to said applications to be borne and paid by said as assignor, hereby assign to said assignee all of my right, title an 62/429.315, filed December 2, 2016, and in the invention disclose ht to claim priority or benefit of said Application No. 62/429.315 plotd. d I do hereby authorize my attorneys to insert on this deed the filing en known.	and to do generally everything necessary to aid tection for said improvements in all countries, the signee. If interest in United States Provisional Application of thereto in all countries of the world including the insuant to any law or treaty in the countries of the g date and application number of said application.
penses incident to said applications to be borne and paid by said as assignor, hereby assign to said assignee all of my right, title an 62/429,315, filed December 2, 2016, and in the invention disclose that to claim priority or benefit of said Application No. 62/429,315 production. d I do hereby authorize my attorneys to insert on this deed the filling en known. 2082 2018 (Oate) the of Minnesora) SS: 444	and to do generally everything necessary to aid tection for said improvements in all countries, the signee. If interest in United States Provisional Application of thereto in all countries of the world including the insuant to any law or treaty in the countries of the g date and application number of said application.
penses incident to said applications to be borne and paid by said as as assignor, hereby assign to said assignee all of my right, title an 62/429.315, filed December 2, 2016, and in the invention disclose ht to claim priority or benefit of said Application No. 62/429.315 pland. d I do hereby authorize my attorneys to insert on this deed the filling en known.	and to do generally everything necessary to aid tection for said improvements in all countries, the signee. If interest in United States Provisional Application of thereto in all countries of the world including the ursuant to any law or treaty in the countries of the grand date and application number of said application (Signature) Dersonally came the above-named Travis who executed the foregoing instrument, who
penses incident to said applications to be borne and paid by said as as assignor, hereby assign to said assignee all of my right, title an 62/429.315, filed December 2, 2016, and in the invention disclose ht to claim priority or benefit of said Application No. 62/429.315 pland. d I do hereby authorize my attorneys to insert on this deed the filling en known.	and to do generally everything necessary to aid tection for said improvements in all countries, the signee. If interest in United States Provisional Application of thereto in all countries of the world including the ursuant to any law or treaty in the countries of the g date and application number of said application (Signature)

PATENT REEL: 047796 FRAME: 0848

former PTO/SB/15 (8-00) Modified LDLK&M Docket Number (Optional) ASSIGNMENT OF UTILITY APPLICATION STJUDE 3.0F-392 Whereas, I. Joseph Gordon 79 Marshall Ave; Mansfield, Massachusetts 02048 hereafter referred to as assignor, have with others invented certain new and useful improvements in TRANSCATHETER DELIVERY SYSTEM WITH TRANSVERSE WHEEL ACTUATION x for which an application for a United States Letters Patent was filed on November 30, 2017 Application Number 15/827,401 for which an application for a United States Letters Patent was executed by me on St. Jude Medical, Cardiology Division, Inc. a corporation of Delaware herein referred to as "assignee" whose mailing address is 177 East County Road B; St. Paul, Minnesota 55117 is desirous of acquiring the entire right, title and interest in the same; NOW, THEREFORE, in consideration of the sum of one dollars (\$), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee. I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No.. 62/429,315, filed December 2, 2016, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No. 62/429,315 pursuant to any law or treaty in the countries of the And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known. State of County of On this 2 day of Defore the personally came the above-named Joseph Gordon, to me personally known as the individual who executed the foregoing instrument, who acknowledged to me that the same was executed by him/her of his/her own free will for the purposes therein set forth.

*Total of forms are submitted | November 24, 2019

tomer PTOISENS (8-80) Modified LOLK Ocket Number (Optional)
3TJUDE 3.0F-392
Of .
nprovements in
HEEL ACTUATION
November 30, 2017
by me on,
y sell, assign and set over to said all other countries in and to said continuation, continuation-in-part, a United States of America and all patents for said invention claiming and including the right to claim such horized and requested to issue all signee of the entire interest therein; ereby agree and covenant without reissue and other applications for or its assigns, to communicate to ing said improvements, whenever if said applications or patents may serally everything necessary to aid improvements in all countries, the
countries of the world including the law or treaty in the countries of the

Do ASSIGNMENT OF UTILITY APPLICATION 5 Whereas, I. Bruce Edward Frohman 3805 Deerwood Lane N. Plymouth Minnesota 55441 hereafter referred to as assignor, have with others invented certain new and useful in TRANSCATHETER DELIVERY SYSTEM WITH TRANSVERSE WH X for which an application for a United States Letters Patent was filed on Application Number 15/827,401 for which an application for a United States Letters Patent was executed Whereas, St. Jude Medical, Cardiology Division, Inc. a corporation of Delaware herein referred to as "assignee" whose mailing address is 177 East County Road B; St. Paul, Minnesota 55117 is desirous of acquiring the entire right, title and interest in the same; NOW, THEREFORE, in consideration of the sum of one dollars (\$ is acknowledged, and other good and valuable consideration, I as assignor hereb assignee my entire right, title and interest for the United States of America and invention and the aforesaid utility patent application and all original, divisional, substitute or reissue applications and patents applied for or granted therefor in the other countries, for said invention, including without limitation all applications and priority or benefit of the aforesaid utility application pursuant to any law or treaty, as priority or benefit and the Commissioner of Patents and Trademarks is hereby aut patents on said improvements or resulting therefrom to said assignee herein, as ass and the undersigned for me and my legal representatives, heirs and assigns do h further remuneration, to execute and deliver all original, divisional, continuation. Letters Patent on said improvements and all assignments thereof to said assignee said assignee or its representatives all facts known to the undersigned respect requested, to testify in any interferences or other legal proceedings in which any o become involved, to sign all lawful papers, make all rightful caths, and to do gen assignee, its successors, assigns and nominees to obtain patent protection for said expenses incident to said applications to be borne and paid by said assignee. I, as assignor, hereby assign to said assignee all of my right, title and interest in Ur No., 62/429,315, filed December 2, 2016, and in the invention disclosed thereto in all right to claim priority or benefit of said Application No. 62/429.315 pursuant to any And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known. State of County of De (QM \QX , QD) & before me personally came the above-named Bruce Edward Frohman, to me personally known as the individual who executed the foregoing instrument, who acknowledged to me that the same was executed by him/her of his/her own free will for the purposes therein set forth, (Notary Public)

*Total of

forms are submitted.

SURUCHI JAIN NOTARY PUBLIC - MINNESOTA MY COMMISSION EXPIRES 01/31/2023 PATENT

former PTO/SB/15 (8:00) Miscified CDCK&M Docket Number (Optional) ASSIGNMENT OF UTILITY APPLICATION STJUDE 3.0F-392 Whereas, I. Michael William Metz 4748 Lyndale Ave S, Apartment 2, Minneapolis, MN 55419 hereafter referred to as assignor, have with others invented certain new and useful improvements in TRANSCATHETER DELIVERY SYSTEM WITH TRANSVERSE WHEEL ACTUATION for which an application for a United States Letters Patent was fitted on November 30, 2017. Application Number 15/827,401 for which an application for a United States Letters Patent was executed by me on St. Jude Medical, Cardiology Division, Inc. a corporation of Delaware herein referred to as "assignee" whose mailing address is 177 East County Road B; St. Paul, Minnesota 55117 is desirous of acquiring the entire right, title and interest in the same; NOW, THEREFORE, in consideration of the sum of dollars (\$ <u>one</u> 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful caths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee. I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No.. 62/429,315, filed December 2, 2016, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No. 62/429.315 pursuant to any law or treaty in the countries of the And I do hereby authorize my attorneys to insert on this deed the filing data application number of said application when known. State of County of On this 14 day of Decomber. 2018 before me personally came the above-named Michael

William Metz, to me personally known as the individual who executed the foregoing instrument, who acknowledged to

me that the same was executed by him/her of his/her own free will for the purposes therein set forth.

(Notary Public)

forms are submitted.

*Total of

SURUCHI JAIN
NOTARY PUBLIC - MINNESOTA
NY COMMISSION EXPRESS 01/31/2023

former PTO/S6/15 (8-00) Modified LDLK&M Docket Number (Optional) ASSIGNMENT OF UTILITY APPLICATION STJUDE 3.0F-392 Whereas, I, Savannah Grace Kyle 409 23rd Ave Northeast, Minneapolis, MN 55418 hereafter referred to as assignor, have with others invented certain new and useful improvements in TRANSCATHETER DELIVERY SYSTEM WITH TRANSVERSE WHEEL ACTUATION x for which an application for a United States Letters Patent was filed on November 30, 2017 Application Number 15/827,401 St. Jude Medical, Cardiology Division, Inc. Whereas. a corporation of Delaware herein referred to as "assignee" whose mailing address is 177 East County Road B; St. Paul, Minnesota 55117 is desirous of acquiring the entire right, title and interest in the same;), the receipt whereof dollars (\$ 1.00 NOW, THEREFORE, in consideration of the sum of one is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and petents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful paths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee. I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No. 62/429 315, filed December 2, 2016, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No. 62/429,315 pursuant to any law or treaty in the countries of the And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known. State of County of 2019 before me personally came the above-named Savannah Grace Kyle, to me personally known as the individual who executed the foregoing instrument, who acknowledged to me that the same was executed by him/her of his/her own free will for the purposes therein set forth. (Notary Public) TESUS E SOTO forms are submitted. Minnesota *Total of

> PATENT REEL: 047796 FRAME: 0852

former PTO/SB/18 (8-00) Modified LDLK&M Docket Number (Optional) **ASSIGNMENT OF UTILITY APPLICATION** STJUDE 3.0F-392 Kelsey Hill Whereas, I. 4948 Lyndale Ave S., Apt 2; Minneapolis, Minnesota 55419 hereafter referred to as assignor, have with others invented certain new and useful improvements in TRANSCATHETER DELIVERY SYSTEM WITH TRANSVERSE WHEEL ACTUATION x for which an application for a United States Letters Patent was filed on November 30, 2017 15/827,401 Application Number for which an application for a United States Letters Patent was executed by me on _______, Whereas. St. Jude Medical, Cardiology Division, Inc. a corporation of Delaware herein referred to as "assignee" whose mailing address is 177 East County Road B; St. Paul, Minnesota 55117 is desirous of acquiring the entire right, title and interest in the same; one dollars (\$ 1.00), the receipt whereof NOW, THEREFORE, in consideration of the sum of is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful caths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee. I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No., 62/429,315, filed December 2, 2016, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No. 62/429,315 pursuant to any law or treaty in the countries of the world. And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known. State of County of On this 5 day of DPC + NOR 2016 before me personally came the above-named Kelsev Hill, to me personally known as the individual who executed the foregoing instrument, who acknowledged to me that the same

was executed by him/har of his/her own free will for the purposes therein set forth. Tiffany Jean Frazer Can Fren **NOTARY PUBLIC** (Notary Public) STATE OF COLORADO NOTARY ID 20174838888

MY COMMISSION EXPRISE DEA/20/21 *Total of forms are submitted.

PATENT