| orm PTO-1595 (Rev. 03-11)<br>MB No. 0651-0027 (exp. 03/31/2015)                                     | U.S. DEPARTMENT OF COMMERCE<br>United States Patent and Trademark Office |  |  |
|---|--|--|--|
| RECORDATION FOR   |  |  |  |
| PATENTS ONLY  |  |  |  |
| To the Director of the U.S. Patent and Trademark Office: Please                                     |  |  |  |
| Name of conveying party(les):   | 2. Name and address of receiving party(les)                              |  |  |
| Peter Nicholas Braido (06/26/2013), Katherine A. Ahmann (11/04/2013), Mina Safwat Fahim             | Name: St. Jude Medical, Cardiology Division, Inc.                        |  |  |
| (09/04/2013),   | Internal Address:  |  |  |
| Additional name(s) of conveying party(les) attached? X Yes No                                       | Street Address:  |  |  |
| 3. Nature of conveyance/Execution Date(s):  |  |  |  |
| Execution Date(s): in parentheses after Inventor name   | 177 East County Road B   |  |  |
| X Assignment Merger Change of Name  |  |  |  |
| Security Agreement Joint Research Agreement   | City: St. Paul   |  |  |
| Government Interest Assignment  | State: Minnesota   |  |  |
| Executive Order 9424, Confirmatory License  | Country: United States of America Zlp: 55117                             |  |  |
| Other   | Additional name(s) & address(es) Yes X No                                |  |  |
|   | attached?  |  |  |
| 4. Application or patent number(s):   | This document is being filed together with a new application.            |  |  |
| A. Patent Application No.(\$)   | B. Patent No.(s)   |  |  |
| 13/781,423  |  |  |  |
|   | Yes X No   |  |  |
| Additional numbers attached   |  |  |  |
| <ol><li>Name and address to whom correspondence<br/>concerning document should be mailed:</li></ol> | 6. Total number of applications and patents involved:                    |  |  |
| Name: Peter D. Sleman   |  |  |  |
| LERNER, DAVID, LITTENBERG,<br>KRUMHOLZ & MENTLIK, LLP   | 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00                            |  |  |
| Internal Address; Atty. Dkt.:   |  |  |  |
| Street Address: 600 South Avenue West   | X Authorized to be charged to deposit account                            |  |  |
|   | Enclosed   |  |  |
|   | None required (government interest not affecting title                   |  |  |
|   |  |  |  |
| City: Westfield   | 8. Payment Information   |  |  |
| State: NJ Zip: 07090  Phone Number: 908-654-5000  | -  |  |  |
| 000 CEA 7066  | Deposit Account Number 12-1095   |  |  |
| Fax Number: 906-634-7666 Email Address: mcormier@ldlkm.com  | Authorized User Name Peter D. Sleman                                     |  |  |
| 9. Signature:   |  |  |  |
| /Peter D. Sleman/ "?"   | November 26, 2013  |  |  |
| Signature   | Date   |  |  |
| Peter D. Sleman - 66,401  | Total number of pages Including cover sheet, attachments, and documents: |  |  |
| Name of Passes Stating  | Attacks and an annual state and an analysis and                          |  |  |

PATENT REEL: 031793 FRAME: 0419

| RECORDATION FORM COVER SHEET (PTO-1595)  (supplemental sheet)     |                    |                           |                               |
|---|--------------------|---------------------------|-------------------------------|
| Additional Conveying Party(ies)/Execution Date(s) (1. Continued): |                    |                           |                               |
| Jeffrey J. Allison (06/25/2                                       | 013), and Andrea L | McCarthy (06/26/2013)     |                               |
| Additional Assignees  | (2. Continued):    |                           |                               |
| , (00:10:10:10:10:10:10:10:10:10:10:10:10:1                       |                    |                           |                               |
|   |                    |                           |                               |
| Internal Address:<br>Street Address:                              |                    |                           |                               |
|   |                    |                           |                               |
|   |                    |                           |                               |
| City:   | State:             | Country:                  | Zip;                          |
|   |                    |                           |                               |
| Assignee Name:<br>  Internal Address:                             |                    |                           | rmonnmanner et e              |
| Street Address:   |                    |                           |                               |
|   |                    |                           |                               |
| City:   | State:             | Country:                  | Zip:                          |
|   |                    |                           |                               |
| Assignée Name:  |                    |                           | A. Marining Survey Consession |
| Street Address:   |                    |                           |                               |
|   |                    |                           |                               |
| City:   | State:             | Country:                  | Z(p:                          |
| Additional Applications and/or Patents (4. Continued):            |                    |                           |                               |
| Additional Patent Application N                                   |                    | Additional Patent Numbers |                               |
| 4A. Continued:  |                    | 4B. Continued:            |                               |
|   |                    |                           |                               |
|   |                    |                           |                               |
|   |                    |                           |                               |
|   |                    |                           |                               |
|   | Additional number  | s attached? Yes No        |                               |

2

Docket No.: STJUDE 3.0-233

|  | former PTO/SB/15 (B-00) Modified LULKGM          |  |
|--|--|--|
| ASSIGNMENT OF UTILITY APPLICATION  | Docket Number (Optional) STJUDE 3.0-233 (CD-645) |  |
| Whereas, I, Peter Nicholas Braido  | of   |  |
| 21460 Heldelberg St. NE; Wyoming, Minnesota 55092  |  |  |
| hereafter referred to as assignor, have with others invented certain r   | lew and useful improvements in                   |  |
| LEAFLET IN CONFIGURATION FOR FUNCTION IN   | VARIOUS SHAPES AND SIZES                         |  |
| x for which an application for a United States Letters Patent was filed on February 28, 2013   |  |  |
| Application Number13/781,423   |  |  |
| for which an application for a United States Letters Pate and  | ent 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;  NOW, THEREFORE, in consideration of the sum of one dollars (\$ 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 release 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, helrs and assigns do hereby agree and covernant without further remuneration, to execute and deliver all original, divisional, continuation, reisaue 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 sid 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 pall by said assignee.  I, as assignor, hereby assign |  |  |
| And I do hereby authorize my attorneys to Insert on this deed the when known.  | De har new management of said application        |  |
| 26 June 2013   | (Signature)                                      |  |
| State of Minnesoto ) ss:   | (e)gnatura)                                      |  |
| County of Anda)  |  |  |
| Nicholas Braido, to me personally known esithe individual who es to me that the same was executed by tim/has of his/her own free w   | ANDREA J PAHAN                                   |  |
| (Notary Public)  | NOTARY PUBLIC                                    |  |
| x *Total of 5 forms are submitted.   | My Commission Expires Jan, 31, 2018 0-530/       |  |

PATENT REEL: 031793 FRAME: 0421

|  | former PTO/SB/15 (8-00) Modified LDLK&M  Docket Number (Optional) |  |
|--|---|--|
| ASSIGNMENT OF UTILITY APPLICATION  |   |  |
| ASSIGNMENT OF OTHER TAFFEIOATION   | STJUDE 3.0-233 (CD-645)   |  |
|  | of  |  |
| Whereas, I, Katherine A. Ahmann  |   |  |
| 317 Groveland Ave Unit 317; Minneapolis, MN 55403 hereafter referred to as assignor, have with others invented certain n   | ew and useful improvements in                                     |  |
| LEAFLET IN CONFIGURATION FOR FUNCTION IN   | VARIOUS SHAPES AND SIZES  |  |
| x for which an application for a United States Letters Pal   | ent was filed on Fabruary 28, 2013                                |  |
| x for which an application for a chited States Editors , at  | (1) to the 11/2 to 1  |  |
| Application Number 13/781,423  |   |  |
|  | nt was everylar by ma on  |  |
| for which an application for a United States Letters Pate and  | III was executed by file of                                       |  |
| anu  |   |  |
| Whereas, St. Jude Medical, Cardiology Division, Inc.   | alline address in   |  |
| a corporation of Delaware herein referred to as "assignee" whose m   | alling accrees is   |  |
| 177 East County Road B; St. Paul, Minnesota 55117 is desirous of acquiring the entire right, title and interest in the same  |   |  |
| NOW TURNETONE Is associated the rule of 1008   | foliars (\$ 1.00 ), the receipt whereof                           |  |
| to an investment and other seed and unlumble consideration 1 89  | assignor hereby sell, assign and set over to said                 |  |
| I make the control of the second intercept for the Linker States   | of America and all other confiller in eight in seight             |  |
| Invention and the aforesaid utility patent application and all on substitute or reissue applications and patents applied for or grant.   | an thanathr in ina luitean altaina lu mitigheacha an an a         |  |
| l attended to the control of the con | iddications and datemts to: said historical meninity t            |  |
| priority or benefit of the aforesaid utility application pursuant to any priority or benefit and the Commissioner of Patents and Tradema.  | raw or negro, and molecularity for this work was -                |  |
| I i i i i i i i i i i i i i i i i i i i  | aa narain se sseidhee oi dic cildic wilcicat weenit i             |  |
| l  | to wasteles de ligistry acide and executive manage i              |  |
| further remuneration, to execute and deliver all engines, divisions  | to said assignee or its assigne, to communicate to                |  |
| l  | rtsiyney teabection ssin liibinaanisiira, whanaaa l               |  |
| [tal   | IN IN WINDS AND OF SMILL EDUNCATIONS OF PURE WAY IN               |  |
| become involved, to sign all lawful papers, make all rightful oath assignee, its successors, assigns and nominees to obtain paternt  | tofaction for said unbrosements in an continue, and               |  |
| expenses incident to said applications to be borne and paid by said  | assignee.   |  |
| t as assigned becaby assign to said assigned all of my right, title  | and Interest in United States Provisional Application             |  |
| i, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No 61/665.616, filled June 28, 2012, and in the Invention disclosed thereto in all countries of the world including the  |   |  |
| right to claim priority or benefit of said Application No. <u>61/665,616</u> 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 f  | iling date and application number of said application             |  |
| when known.  |   |  |
| 11/04/13   (Date)   State of     Mynicolar   State     | la a  |  |
| (Date)   | (Signature)   |  |
| State of Municipation ) SS:  |   |  |
| County of (Lamery )  |   |  |
| On this taday of Nonember 3013 before me personally came the above-named Katherine A.  |   |  |
| Abment 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   | 18 Dalbojies (Janasa) 28 California Aviv (Valended                |  |
| Mary Ann Kautholk  | Notary Public State of Minneauta                                  |  |
| (Notery Refalic)   | My Commission Expires   |  |
|  | LD-530/   |  |
| x *Total of 5 forms are submitted.   | LD-530/   |  |

PATENT

REEL: 031793 FRAME: 0422

|   | former PTO/S9/15 (8-00) Modified LULK-SM   |  |
|---|--|--|
| ASSIGNMENT OF UTILITY APPLICATION   | Docket Number (Optional) STJUDE 3.0-233 (CD-645)   |  |
| Whereas, I, Mina Safwat Fahim   | of   |  |
| 5899 Hamline Ave. N.; Shoreview, Minnesota 55126  |  |  |
| hereafter referred to as assignor, have with others invented certain n  | ew and useful improvements in  |  |
| LEAFLET IN CONFIGURATION FOR FUNCTION IN  | VARIOUS SHAPES AND SIZES   |  |
| x for which an application for a United States Letters Patent was filed on February 28, 2013  |  |  |
| Application Number 13/781,423   |  |  |
| for which an application for a United States Letters Pate and   | int was executed by me on  |  |
| Whereas, St. Jude Medical, Cardiology Division, Inc. a corporation of Delaware herein referred to as "assignee" whose many East County Road B; St. Paul, Minnesota 55117  | A CONTRACTOR OF THE CONTRACTOR |  |
| Is desirous of acquiring the entire right, title and interest in the same   | , , ,  |  |
| NOW, THEREFORE, in consideration of the sum of one dollars (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration. It 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 subject on 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 other countries, for said invention, including without limitation all applications and patents for said invention claiming other countries, for said invention, including without limitation all applications and patents for said invention claiming other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the eforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit of the eforesaid utility application to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assignes do hereby agree and covernant without further remuneration, to execute and deliver all original, divisional, continuation, related and other applications for further remuneration, to execute and deliver all original, divisional, continuation, related and other applications for further remuneration to execute and deliver all original, divisional, continuation, related and other applications for further remuneration to execute and deliver all original, divisional, continuation, related and other applications for further remuneration, the representatives all facts known to the undersigned respecting and other applications for said assignee or its representatives |  |  |
| And I do hereby authorize my attorneys to insert on this deed the when known.   | militing date and approach formal at any approach  |  |
|   |  |  |
| <u>45 EP 13</u>   | eliv   |  |
| (Date)  | (Signature)  |  |
| State of Minnand ) ss:  |  |  |
| County of Dr Fals )   |  |  |
| On this A day of COKWYDLY . 2013 before me personally came the above-named Mina Safwat Fahim, 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.  KRISTA COLETTE JOYCE Notary Public  With A Manual Public Colette Cole  |  |  |
| January 11, 2011.   |  |  |
| x *Total of 5 forms are submitted.  | LD-530/  |  |

|  | former PTC/SB/15 (8-00) Modified LDLK&M  |  |
|--|--|--|
| ACCIONMENT OF UTULEY ADDITION  | Docket Number (Optional)   |  |
| ASSIGNMENT OF UTILITY APPLICATION  | STJUDE 3.0-233 (CD-645)  |  |
| Whereas, I, Jeffrey J. Allison   | of   |  |
| 1301 Drake Cove; Mayer, Minnesota 65360  |  |  |
| hereafter referred to as assignor, have with others invented certain n   | ew and useful improvements in  |  |
| LEAFLET IN CONFIGURATION FOR FUNCTION IN   |  |  |
| X for which an application for a United States Letters Pat   | ent was filed on February 26, 2013   |  |
| Application Number 13/781,423  |  |  |
| 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 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 (\$ 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-ln-part, substitute or release 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, helirs 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 |  |  |
| And I do hereby authorize my attorneys to insert on this deed the fill when known.  25 JUL 203  (Date)  State of Miny Esoto ) SS:  County of Anoko ) SS:  On this day of We all before me Allison, to the personally known as the individual who executed the the same was executed by history of history public)  | (Signature)  (Signature) |  |
|  | the Commission Engines Jun. 57, 2010   |  |
| X *Total of 6 forms are submitted.   | LD-530/  |  |

PATENT REEL: 031793 FRAME: 0424

**RECORDED: 11/26/2013** 

|  | former PTO/SB/15 (8-00) Modified LDLK&M            |  |
|--|--|--|
| TOTAL OF THE ITY ADDITION  | Docket Number (Optional)                           |  |
| ASSIGNMENT OF UTILITY APPLICATION  | STJUDE 3.0-233 (CD-645)                            |  |
| Whereas, I, Andrea L. McCarthy   | of   |  |
| 425 Springhill Road; Vadnals Heights, Minnesota 55127  |  |  |
| hereafter referred to as assignor, have with others invented certain n   | ew and useful improvements in                      |  |
| LEAFLET IN CONFIGURATION FOR FUNCTION IN   | VARIOUS SHAPES AND SIZES                           |  |
| x for which an application for a United States Letters Pat   |  |  |
| Application Number 13/781,423  |  |  |
| for which an application for a United States Letters Pate  | nt was executed by me on,                          |  |
| and  |  |  |
| Whereas, St. Jude Medical, Cardiology Division, Inc.   |  |  |
| a corporation of Dalaware herein referred to as "assignee" whose m   | 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 dollars (\$ 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 relasue 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.   |  |  |
| 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 ald 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 61/665,818, filed June 28, 2012, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No 61/665,616 pursuant to any law or treaty in the countries of the  |  |  |
| world.   | pulsasin is any left to a series                   |  |
| And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.   |  |  |
| 26 Jun 13  | Robea Mc Carthy (Signature)                        |  |
| (Date)   | (Signature)  |  |
| State of Minnesota ) ss:   |  |  |
| County of Amaka )  |  |  |
| 21/10 ONINO 2013   | e personally came the above-named Andrea L.        |  |
| the Continue of the Individual who executed the foregoing instrument, who acknowledged to me   |  |  |
| that the same was executed by humber of his her own free will far the purposes the ent set to the  |  |  |
|  | ANDREA J PAHAN<br>NOTARY PUBLIC                    |  |
| (Notary Public)  | MINNESOTA  |  |
| x *Total of 5 forms are submitted.   | My Controlsolan Eugliste Jose 24, 8046<br>—ED-530/ |  |
| I AI IUMEUI UNITED DIS CONTRACTOR CONTRA |  |  |

LDLKM

**PATENT** 

**REEL: 031793 FRAME: 0425**