## 504641329 11/14/2017

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4688049

| SUBMISSION TYPE:   |  | N   | NEW ASSIGNMENT   |                            |          |                |
|--|--|---|--|----------------------------|----------|----------------|
| ATURE OF CONVEYANCE:   |  |   | ASSIGNMENT   |                            |          |                |
| CONVEYING PARTY  | DATA   |   |  |                            |          |                |
|  |  | Na  | ame  |                            |          | Execution Date |
| AGA MEDICAL CORP   | ORATION  |   |  |                            |          | 12/16/2015     |
| RECEIVING PARTY D  | ΑΤΑ  |   |  |                            |          |                |
| Name:  | ST. JUD  | ST. JUDE MEDICAL, CARDIOLOGY DIVISION, INC.   |  |                            |          |                |
| Street Address:  | 177 EAS  | ST COI  | JNTY ROAD B  |                            |          |                |
| City:  | ST. PAU  | JL  |  |                            |          |                |
| State/Country:   | MINNES   | OTA   |  |                            |          |                |
| Postal Code:   | 55117  |   |  |                            |          |                |
|  | 1  |   |  |                            |          |                |
| PROPERTY NUMBER  |  |   |  |                            |          |                |
| Property Type  |  |   | Number   |                            |          |                |
| Application Number:  | 1  | 52717   | 46   |                            |          |                |
| CORRESPONDENCE   | ΔΤΔΠ   |   |  |                            |          |                |
|  | (:<br>be sent to   | the e-i   | 2-2307<br>mail address first; if that is<br>t is unsuccessful, it will be  |                            |          |                |
| Fax Number:<br>Correspondence will   | );<br>be sent to<br>f provided;  | the e-i<br>if that  |  |                            |          |                |
| Fax Number:<br><i>Correspondence will<br/>using a fax number, i</i><br>Phone:<br>Email:  | ;)<br><b>be sent to</b><br>i <b>f provided;</b><br>3<br>u  | the e-r<br>if that<br>14-62<br>ispater  | <i>mail address first; if that is</i><br>t <i>is unsuccessful, it will be</i><br>1-5070<br>hts@armstrongteasdale.com   | sent                       |          |                |
| Fax Number:<br><i>Correspondence will<br/>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name  | (;<br>be sent to ;<br>f provided;<br>3<br>u<br>e: P  | the e-i<br>if that<br>14-62<br>ispater<br>PATEN   | <i>mail address first; if that is</i><br>t <i>is unsuccessful, it will be</i><br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT  | sent                       |          |                |
| Fax Number:<br><i>Correspondence will<br/>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:   | (;<br>be sent to ;<br>f provided;<br>3<br>u<br>e: P<br>A   | the e-i<br>if that<br>14-62<br>ispater<br>PATEN<br>ARMST  | <i>mail address first; if that is</i><br>t <i>is unsuccessful, it will be</i><br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT<br>'RONG TEASDALE LLP  | e sent                     |          |                |
| Fax Number:<br><i>Correspondence will<br/>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name  | ((<br>if provided;<br>3<br>u<br>e: P<br>A<br>7   | the e-i<br>if that<br>14-62<br>ispater<br>PATEN<br>ARMST<br>700 F0  | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180  | e sent                     |          |                |
| Fax Number:<br><i>Correspondence will</i><br><i>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 4:   | (;<br>if provided;<br>3<br>u<br>e: P<br>7<br>5   | the e-i<br>if that<br>spater<br>PATEN<br>ARMST<br>700 FC  | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105   | e sent                     |          |                |
| Fax Number:<br><i>Correspondence will</i><br><i>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 4:<br>ATTORNEY DOCKET N  | (;<br>be sent to ;<br>f provided;<br>3<br>u<br>2<br>:<br>P<br>A<br>7<br>S<br>NUMBER:                                       | the e-i<br>if that<br>spater<br>PATEN<br>ARMST<br>700 FC<br>ST. LOI   | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105<br>27.US.CON   | e sent                     |          |                |
| Fax Number:<br><i>Correspondence will</i><br><i>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 4:<br>ATTORNEY DOCKET N<br>NAME OF SUBMITTER   | (;<br>be sent to ;<br>f provided;<br>3<br>u<br>2<br>:<br>P<br>A<br>7<br>S<br>NUMBER:                                       | the e-i<br>if that<br>spater<br>PATEN<br>ARMST<br>700 FC<br>ST. LOI   | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105<br>27.US.CON   | e sent                     |          |                |
| Fax Number:<br><i>Correspondence will</i><br><i>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 2:<br>Address Line 4:<br>ATTORNEY DOCKET N<br>NAME OF SUBMITTER<br>BIGNATURE:  | (;<br>be sent to ;<br>f provided;<br>3<br>u<br>2<br>:<br>P<br>A<br>7<br>S<br>NUMBER:                                       | the e-i<br>if that<br>spater<br>PATEN<br>ARMST<br>700 FC<br>ST. LOI   | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105<br>27.US.CON<br>HRISTOPHER M. GOFF<br>Christopher M. Goff/              | e sent                     |          |                |
| Fax Number:<br><i>Correspondence will</i><br><i>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 2:<br>Address Line 4:<br>ATTORNEY DOCKET N<br>NAME OF SUBMITTER<br>SIGNATURE:<br>DATE SIGNED:  | (;<br>be sent to ;<br>f provided;<br>3<br>u<br>2<br>:<br>P<br>A<br>7<br>S<br>NUMBER:                                       | the e-i<br>if that<br>spater<br>PATEN<br>ARMST<br>700 FC<br>ST. LOI   | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105<br>27.US.CON   | e sent                     |          |                |
| Fax Number:<br><i>Correspondence will</i><br><i>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 4:<br>ATTORNEY DOCKET N<br>NAME OF SUBMITTER<br>SIGNATURE:<br>DATE SIGNED:<br>Total Attachments: 5   | (;<br>be sent to ;<br>if provided;<br>3<br>u<br>e: P<br>A<br>7<br>S<br>NUMBER:   | the e-i   if that   314-62   ispater   PATEN   ARMST   700 FC   ST. LOI   0   0   1   1   | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105<br>27.US.CON<br>HRISTOPHER M. GOFF<br>Christopher M. Goff/<br>1/14/2017 | 9 <b>sent</b>              |          |                |
| Fax Number:<br><i>Correspondence will</i><br><i>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 2:<br>Address Line 4:<br>ATTORNEY DOCKET N<br>NAME OF SUBMITTER<br>SIGNATURE:<br>DATE SIGNED:<br>Total Attachments: 5<br>source=027.US.CON AS                          | ((<br>if provided;<br>if provided;<br>3<br>u<br>9: P<br>A<br>7<br>S<br>NUMBER:<br>8:<br>SSIGNMEN                           | the e-i   if that   if that   spater   PATEN   ARMST   700 F0   ST. LOI   0   1   0   1   1   T-AGA                                   | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105<br>27.US.CON<br>HRISTOPHER M. GOFF<br>Christopher M. Goff/<br>1/14/2017 | 9 <b>sent</b><br>00        | if       |                |
| Fax Number:<br>Correspondence will<br>using a fax number, i<br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 2:<br>Address Line 4:<br>ATTORNEY DOCKET N<br>NAME OF SUBMITTER<br>SIGNATURE:<br>DATE SIGNED:<br>Total Attachments: 5<br>source=027.US.CON AS<br>source=027.US.CON AS                | ((<br>be sent to<br>f provided;<br>3<br>u<br>P<br>P<br>A<br>7<br>S<br>NUMBER:<br>8<br>NUMBER:<br>8<br>SSIGNMEN<br>SSIGNMEN | the   e-i     if that   if that     314-62   ispater     PATEN   ARMST     700 FC   C     0   C     0   C     1   1     T-AGA   T-AGA | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105<br>27.US.CON<br>HRISTOPHER M. GOFF<br>Christopher M. Goff/<br>1/14/2017 | age1.1                     | if       |                |
| Fax Number:<br><i>Correspondence will</i><br><i>using a fax number, i</i><br>Phone:<br>Email:<br>Correspondent Name<br>Address Line 1:<br>Address Line 2:<br>Address Line 2:<br>Address Line 4:<br>ATTORNEY DOCKET IN<br>NAME OF SUBMITTER<br>SIGNATURE:<br>DATE SIGNED:<br>Total Attachments: 5<br>source=027.US.CON AS<br>source=027.US.CON AS | ((<br>be sent to<br>if provided;<br>3<br>u<br>2: P<br>A<br>7<br>S<br>NUMBER:<br>2:<br>SSIGNMEN<br>SSIGNMEN<br>SSIGNMEN     | the e-i   if that   if that   ispater   PATEN   ARMST   700 F0   5T. LOI   0   0   0   1   7-AGA   T-AGA   T-AGA                      | mail address first; if that is<br>t is unsuccessful, it will be<br>1-5070<br>hts@armstrongteasdale.com<br>T DOCKET DEPARTMENT<br>RONG TEASDALE LLP<br>DRSYTH BLVD., SUITE 180<br>UIS, MISSOURI 63105<br>27.US.CON<br>HRISTOPHER M. GOFF<br>Christopher M. Goff/<br>1/14/2017 | age1.1<br>age2.1<br>age3.1 | if<br>if |                |

## CONFIRMATORY ASSIGNMENT

WHEREAS, AGA Medical Corporation, formerly of 5050 Nathan Lane North, Minneapolis, Minnesota 55442 (hereinafter referred to as "AGA"), has heretofore sold, transferred, and conveyed to St. Jude Medical, Cardiology Division, Inc., a Delaware Corporation, of 177 East County Road B, St. Paul, Minnesota 55117 (hereinafter referred to as "St. Jude Medical"), all of its right, title, and interest, in and to certain inventions, patents, and patent applications as set forth in Appendix A attached hereto, as part of a Purchase Agreement dated December 31, 2012, and the parties wish to memorialize such sale, transfer, and conveyance.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned officer of AGA hereby confirms that AGA did sell, transfer, and convey unto St. Jude Medical all right, title, and interest in and to the aforesaid inventions, patents, and patent applications set forth in Appendix A attached hereto.

AGA Medical Corporation

Mary . Bv:

Thomas A. Rendos

| Title: | Vice President |
|--------|----------------|
| Date:  | 12/14/2015     |

## APPENDIX A

| Application<br>No. | Patent<br>No. | Filing<br>Date | Title  |
|--------------------|---------------|----------------|--|
| 09/019,620         | 5,944,738     | 1998-02-06     | Percutaneous Catheter Directed Constricting Occlusion<br>Device  |
| 08/272,335         | 6,123,715     | 1994-07-08     | Method of Forming Medical Devices; Intravascular<br>Occlusion Devices  |
| 09/119,823         | 6,168,622     | 1998-07-21     | Method and Apparatus for Occluding Aneurysms   |
| 09/450,240         | 6,210,338     | 1999-11-29     | Sizing Catheter for Measuring Cardiovascular Structures  |
| 09/137,949         | 6,241,678     | 1998-08-21     | Sizing Catheter for Measuring Septal Defects   |
| 09/572,649         | 6,334,864     | 2000-05-17     | Alignment Member for Delivering a Non-Symmetrical<br>Device with a Predefined Orientation  |
| 09/981,736         | 6,402,772     | 2001-10-17     | Alignment Member for Delivering a Non-Symmetrical<br>Device with a Predefined Orientation  |
| 09/535,600         | 6,468,301     | 2000-03-27     | Repositionable and Recapturable Vascular Stent/Graft   |
| 09/535,590         | 6,468,303     | 2000-03-27     | Retrievable Self Expanding Shunt   |
| 09/751,426         | 6,506,204     | 2000-12-29     | Method and Apparatus for Occluding Aneurysms   |
| 10/087,570         | 6,638,257     | 2002-03-01     | Intravascular Flow Restrictor  |
| 10/408,805         | 7,001,409     | 2003-04-04     | Intravascular Flow Restrictor  |
| 11/331,640         | 8,900,287     | 2006-01-13     | Intravascular Deliverable Stent for Reinforcement of Abdominal Aortic Aneurysm   |
| 11/473,971         | 8,398,670     | 2006-06-23     | Multi-Layer Braided Structures for Occluding Vascular<br>Defects and for Occluding Fluid Flow Through Portions of<br>the Vasculature of the Body |
| 13/618,483         |               | 2012-09-14     | Multi-Layer Braided Structures for Occluding Vascular<br>Defects and for Occluding Fluid Flow Through Portions of<br>the Vasculature of the Body |
| 11/476,947         | ······        | 2006-06-27     | Flanged Occlusion Devices and Methods  |
| 11/654,288         | 8,778,008     | 2007-01-17     | Intravascular Deliverable Stent for Reinforcement of Vascular Abnormalities  |
| 11/820,841         | 8,777,974     | 2007-06-21     | Multi-Layer Braided Structures for Occluding Vascular<br>Defects   |
| 14/157,682         |               | 2014-01-17     | Multi-Layer Braided Structures for Occluding Vascular<br>Defects   |

| 14/282,134 |           | 2014-05-20 | Multi-Layer Braided Structures for Occluding Vascular<br>Defects                                      |
|------------|-----------|------------|---|
| 14/593,625 |           | 2015-01-09 | Multi-Layer Braided Structures for Occluding Vascular<br>Defects                                      |
| 11/823,430 | 8,048,147 | 2007-06-27 | Branched Stent/Graft and Method of Fabrication  |
| 13/197,526 | 8,434,393 | 2011-08-03 | Branched Stent/Graft and Method of Fabrication  |
| 13/835,534 | 8,651,007 | 2013-03-15 | Branched Stent/Graft and Method of Fabrication  |
| 11/827,590 | 8,034,061 | 2007-07-12 | Percutaneous Catheter Directed Intravascular Occlusion<br>Devices                                     |
| 13/216,784 | 8,454,633 | 2011-08-24 | Percutaneous Catheter Directed Intravascular Occlusion<br>Devices                                     |
| 13/837,351 | 8,961,556 | 2013-03-15 | Percutaneous Catheter Directed Intravascular Occlusion<br>Devices                                     |
| 14/593,039 |           | 2015-01-09 | Percutaneous Catheter Directed Intravascular Occlusion<br>Devices                                     |
| 11/881,026 | 8,361,138 | 2007-07-25 | Braided Occlusion Device Having Repeating Expanded Volume Segments Separated by Articulation Segments |
| 11/861,954 |           | 2007-09-26 | Braided Vascular Devices Having No End Clamps   |
| 11/974,398 |           | 2007-10-12 | Multi-Component Vascular Device   |
| 11/966,397 |           | 2007-12-28 | Percutaneous Catheter Directed Intravascular Occlusion<br>Devices                                     |
| 12/032,938 | 8,163,004 | 2008-02-18 | Stent Graft for Reinforcement of Vascular Abnormalities and Associated Method                         |
| 12/032,944 | 8,747,453 | 2008-02-18 | Stent/Stent Graft for Reinforcement of Vascular<br>Abnormalities and Associated Method                |
| 12/040,260 | 8,313,505 | 2008-02-29 | Device for Occluding Vascular Defects   |
| 12/235,059 |           | 2008-09-22 | Percutaneous Catheter Directed Intravascular Occlusion<br>Device                                      |
| 14/157,692 |           | 2014-01-17 | Percutaneous Catheter Directed Intravascular Occlusion<br>Device                                      |
| 12/367,104 |           | 2009-02-06 | Medical Devices for Treating a Target Site and Associated<br>Method                                   |
| 13/709,666 | 8,491,649 | 2012-12-10 | Medical Device Including Corrugated Braid and<br>Associated Method                                    |

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| 12/179,157 |           | 2008-07-24 | Multi-Layered Medical Device for Treating a Target Site and Associated Method    |
|------------|-----------|------------|--|
| 12/205,083 |           | 2008-09-05 | Bifurcated Medical Device for Treating a Target Site and<br>Associated Method    |
| 12/258,899 |           | 2008-10-27 | Multi-Layer Device with Gap for Treating a Target Site and Associated Method     |
| 12/208,787 |           | 2008-09-11 | Device for Occluding Vascular Defects  |
| 12/197,604 |           | 2008-08-25 | Stent Graft Having Extended Landing Area and Method for Using the Same           |
| 12/268,756 | 8,940,015 | 2008-11-11 | Asymmetrical Medical Devices for Treating A Target Site<br>and Associated Method |
| 12/179,172 | -         | 2008-07-24 | Multi-Layered Medical Device for Treating a Target Site and Associated Method    |
| 12/372,854 |           | 2009-02-18 | Medical Device with Stiffener Wire for Occluding<br>Vascular Defects             |
| 13/018,802 |           | 2011-02-01 | Vascular Delivery System and Method  |
| 13/072,337 | 8,821,529 | 2011-03-25 | Device and Method for Occluding a Septal Defect                                  |
| 13/236,763 | 8,621,975 | 2011-09-20 | Device and Method for Treating Vascular Abnormalities                            |
| 14/090,820 |           | 2013-11-26 | Device and Method for Treating Vascular Abnormalities                            |
| 13/072,378 |           | 2011-03-25 | Device and Method for Delivering a Vascular Device                               |
| 13/091,763 | 8,511,214 | 2011-04-21 | Tubular Structure and Method for Making the Same                                 |
| 13/945,057 | 8,919,389 | 2013-07-18 | Tubular Structure and Method for Making the Same                                 |
| 13/236,803 | 9,039,752 | 2011-09-20 | Device and Method for Delivering a Vascular Device                               |
| 13/163,313 | 8,764,787 | 2011-06-17 | Occlusion Device and Associated Deployment Method                                |
| 14/282,121 | 9,179,920 | 2014-05-20 | Occlusion Device and Associated Deployment Method                                |
| 13/367,011 | 9,113,890 | 2012-02-06 | Devices and Methods for Occluding Vascular<br>Abnormalities                      |
| 13/300,322 | 8,758,389 | 2011-11-18 | Devices and Methods for Occluding Abnormal Openings in a Patient's Vasculature   |
| 14/243,271 |           | 2014-04-02 | Devices and Methods for Occluding Abnormal Openings in a Patient's Vasculature   |
| 13/771,245 |           | 2013-02-20 | Devices and Methods for Delivering Vascular Implants                             |

| 13/782,677 | 2013-03-01 | Embolic Protection Shield   |
|------------|------------|---|
| 13/782,703 | 2013-03-01 | Embolic Protection Device   |
| 13/782,755 | 2013-03-01 | Embolic Protection Pass Through Tube                                  |
| 13/782,657 | 2013-03-01 | Embolic Protection Device   |
| 13/791,118 | 2013-03-08 | Medical Device for Treating a Target Site                             |
| 13/791,337 | 2013-03-08 | Medical Device for Treating a Target Site                             |
| 13/785,754 | 2013-03-05 | Medical Device for Treating a Target Site                             |
| 14/595,686 | 2015-01-13 | Occlusion Devices and Methods of Making and Using Same                |
| 14/096,427 | 2013-12-04 | Paravalvular Leak Occlusion Device for Self-Expanding<br>Heart Valves |
| 13/793,289 | 2013-03-11 | Percutaneous Catheter Directed Collapsible Medical<br>Closure Device  |
| 13/797,513 | 2013-03-12 | Paravalvular Leak Occlusion Device for Self-Expanding<br>Heart Valves |