

# PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT             |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
|---|----------------------------|---------------|-----------------|----------------------------|----------------------------|-----------------|-------------|-----------------------|------------|---------------------|------------|------------------------|------------|
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                 |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>CONVEYING PARTY DATA</b>   |                            |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th style="width: 30%;">Execution Date</th> </tr> </thead> <tbody> <tr> <td>Sarah A. Audet</td> <td>10/30/2008</td> </tr> <tr> <td>James K. Carney</td> <td>02/10/2009</td> </tr> <tr> <td>William J. Combs</td> <td>01/20/2009</td> </tr> <tr> <td>Tommy D. Bennet</td> <td>10/30/2008</td> </tr> <tr> <td>Barbro M.L. Kjellstrom</td> <td>02/02/2009</td> </tr> </tbody> </table> |                            | Name          | Execution Date  | Sarah A. Audet             | 10/30/2008                 | James K. Carney | 02/10/2009  | William J. Combs      | 01/20/2009 | Tommy D. Bennet     | 10/30/2008 | Barbro M.L. Kjellstrom | 02/02/2009 |
| Name  | Execution Date             |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| Sarah A. Audet  | 10/30/2008                 |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| James K. Carney   | 02/10/2009                 |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| William J. Combs  | 01/20/2009                 |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| Tommy D. Bennet   | 10/30/2008                 |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| Barbro M.L. Kjellstrom  | 02/02/2009                 |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>RECEIVING PARTY DATA</b>   |                            |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>Name:</b></td> <td>MEDTRONIC, INC.</td> </tr> <tr> <td><b>Street Address:</b></td> <td>710 Medtronic Parkway N.E.</td> </tr> <tr> <td><b>City:</b></td> <td>Minneapolis</td> </tr> <tr> <td><b>State/Country:</b></td> <td>MINNESOTA</td> </tr> <tr> <td><b>Postal Code:</b></td> <td>55432-5640</td> </tr> </table>   |                            | <b>Name:</b>  | MEDTRONIC, INC. | <b>Street Address:</b>     | 710 Medtronic Parkway N.E. | <b>City:</b>    | Minneapolis | <b>State/Country:</b> | MINNESOTA  | <b>Postal Code:</b> | 55432-5640 |                        |            |
| <b>Name:</b>  | MEDTRONIC, INC.            |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>Street Address:</b>  | 710 Medtronic Parkway N.E. |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>City:</b>  | Minneapolis                |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>State/Country:</b>   | MINNESOTA                  |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>Postal Code:</b>   | 55432-5640                 |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>PROPERTY NUMBERS Total: 1</b>  |                            |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td><b>Application Number:</b></td> <td>12263423</td> </tr> </tbody> </table>  |                            | Property Type | Number          | <b>Application Number:</b> | 12263423                   |                 |             |                       |            |                     |            |                        |            |
| Property Type   | Number                     |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>Application Number:</b>  | 12263423                   |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>CORRESPONDENCE DATA</b>  |                            |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <p>Fax Number: (763)505-2530</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 763-514-4000</p> <p>Email: blancheb@gtlaw.com</p> <p>Correspondent Name: MEDTRONIC, INC.</p> <p>Address Line 1: 710 Medtronic Parkway N.E.</p> <p>Address Line 2: Mail Stop LC340</p> <p>Address Line 4: Minneapolis, MINNESOTA 55432-5640</p>   |                            |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>ATTORNEY DOCKET NUMBER:</b>  | P0025573 (014600)          |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |
| <b>NAME OF SUBMITTER:</b>   | Angela Williams            |               |                 |                            |                            |                 |             |                       |            |                     |            |                        |            |

CH \$40.00 12263423

**500916455**

**PATENT**  
**REEL: 022988 FRAME: 0332**

**Total Attachments: 31**

source=MEDTRONICP0025573Assignment#page1.tif  
source=MEDTRONICP0025573Assignment#page2.tif  
source=MEDTRONICP0025573Assignment#page3.tif  
source=MEDTRONICP0025573Assignment#page4.tif  
source=MEDTRONICP0025573Assignment#page5.tif  
source=MEDTRONICP0025573Assignment#page6.tif  
source=MEDTRONICP0025573Assignment#page7.tif  
source=MEDTRONICP0025573Assignment#page8.tif  
source=MEDTRONICP0025573Assignment#page9.tif  
source=MEDTRONICP0025573Assignment#page10.tif  
source=MEDTRONICP0025573Assignment#page11.tif  
source=MEDTRONICP0025573Assignment#page12.tif  
source=MEDTRONICP0025573Assignment#page13.tif  
source=MEDTRONICP0025573Assignment#page14.tif  
source=MEDTRONICP0025573Assignment#page15.tif  
source=MEDTRONICP0025573Assignment#page16.tif  
source=MEDTRONICP0025573Assignment#page17.tif  
source=MEDTRONICP0025573Assignment#page18.tif  
source=MEDTRONICP0025573Assignment#page19.tif  
source=MEDTRONICP0025573Assignment#page20.tif  
source=MEDTRONICP0025573Assignment#page21.tif  
source=MEDTRONICP0025573Assignment#page22.tif  
source=MEDTRONICP0025573Assignment#page23.tif  
source=MEDTRONICP0025573Assignment#page24.tif  
source=MEDTRONICP0025573Assignment#page25.tif  
source=MEDTRONICP0025573Assignment#page26.tif  
source=MEDTRONICP0025573Assignment#page27.tif  
source=MEDTRONICP0025573Assignment#page28.tif  
source=MEDTRONICP0025573Assignment#page29.tif  
source=MEDTRONICP0025573Assignment#page30.tif  
source=MEDTRONICP0025573Assignment#page31.tif

**RECORDATION FORM COVER SHEET  
PATENTS ONLY**

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies)**

Sarah A. Audet, James K. Carney,  
William J. Combs, Tommy D. Bennet, & Barbro M.L. Kjellstrom

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

**3. Nature of conveyance/Execution Date(s):**

10/30/2008, 02/10/2009

Execution Date(s) 01/20/2009, 10/30/2008, & 02/02/2009

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Joint Research Agreement  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other \_\_\_\_\_

**2. Name and address of receiving party(ies)**

Name: MEDTRONIC, INC.

Address: 710 Medtronic Parkway N.E.  
Minneapolis, Minnesota, 55432-5640, USA

Name:

Address:

Additional name(s) & address(es) attached? ☐ Yes ☒ No

**4. Application or patent number(s):**

☐ This document is being filed together with a new application.

A. Patent Application No.(s)  
12/263,423

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ NO

**5. Name and address to whom correspondence concerning document should be mailed:**

Name: Carrie Arcand

Address: Medtronic, Inc.  
710 Medtronic Parkway N.E.  
Mail Stop LC340

City: Minneapolis

State: Minnesota Zip: 55432

Phone Number: 763-514-4000

Fax Number: 763-505-2530

Email Address: blancheb@gtlaw.com

**6. Total number of applications and patents involved: one**

**7. Total fee (37 CFR 1.21(h) & 3.41) \$40.00**

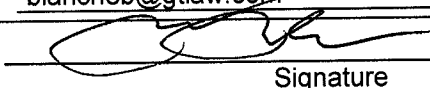
- ☒ Authorized to be charged to deposit account  
☐ Enclosed  
☐ None required (government interest not affecting title)

**8. Payment Information**

b. Deposit Account Number 502638

Authorized User Name Greenberg Traurig LLP

**9. Signature:**

  
Signature

July 22, 2009  
Date

Bradley D. Blanche

Name of Person Signing

Total number of pages including cover sheet, attachments, and document:

31

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450

## ASSIGNMENT

WHEREAS, We, SARAH A. AUDET, JAMES K. CARNEY, WILLIAM J. COMBS, TOMMY D. BENNET, and BARBRO M. L. KJELLSTROM, are the inventors with residence and citizenship as indicated below, have made an invention entitled **METHOD AND APPARATUS TO DETECT ISCHEMIA WITH A PRESSURE SENSOR** that is the subject of United States Utility Application Serial Number ( 12/263,423 ) , filed ( Oct. 31, 2008 ), [We hereby authorize the application serial number and filing date of said utility application to be inserted above in the parentheses when known];

WHEREAS, MEDTRONIC, INC., a corporation organized and existing under the laws of the State of Minnesota and having a principal place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5640, hereinafter referred to as "Corporation," is desirous of acquiring the entire right, title and interest in and to said invention for the United States and for all foreign countries and in and to any and all foreign and domestic Letters Patent which may be granted therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Corporation, its successors and assigns, the entire right, title and interest in and to said invention and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor including our rights under the International Convention for the Protection of Industrial Property, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Letters Patent that may be granted, the same to be held and enjoyed by Corporation for its own use and behoof and use and behoof of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made, and also hereby authorize Corporation and its employees to fill in the serial number and filing date above after this document has been executed;

AND, for the consideration aforesaid, we materially represent to Corporation, its successors and assigns, that at the time of the execution and delivery of these presents, we are the sole lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above mentioned, and that the same are unencumbered, and that we have good right and lawful authority to sell and convey the same in the manner herein set forth, and hereby grant Corporation the right to fill in the serial number and filing date in this document upon their receipt;

AND, for the consideration aforesaid, we hereby individually covenant and agree to and with Corporation, its successors and assigns, that whenever its counsel or the counsel of its successors or assigns, learned in the law, shall advise that an amendment or division of, or continuation or any continuation-in-part thereof, or any other proceeding in connection with the filing or prosecution of said domestic or foreign patent applications, including interference proceedings, is lawful and desirable, or that a reissue of extension of said Letters Patent is lawful

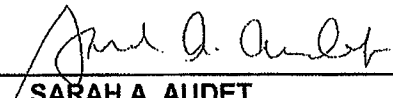
ASSIGNMENT  
Page 1 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

and desirable, we, or our executors, administrators or assigns will sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue or extension of the same, without charge to Corporation, its successors or assigns, but at Corporation's expense.

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this 30<sup>th</sup> day of October, 2008.

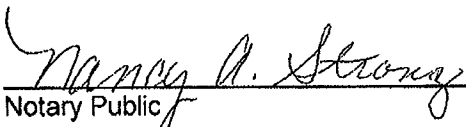
  
SARAH A. AUDET

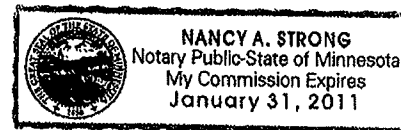
STATE OF MINNESOTA

COUNTY OF RAMSEY  
COUNTRY USA

On this 30<sup>th</sup> day of OCTOBER, 2008, before me personally appeared Sarah A. Audet, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

  
Notary Public



ASSIGNMENT  
Page 2 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**JAMES K. CARNEY**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared James K. Carney, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 3 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0337**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**WILLIAM J. COMBS**

STATE OF

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared William J. Combs, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 4 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0338**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**TOMMY D. BENNETT**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Tommy D. Bennett, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 5 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0339**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**BARBRO M. L. KJELLSTROM**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Barbro M. L. Kjellstrom, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 6 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0340**

## ASSIGNMENT

WHEREAS, We, SARAH A. AUDET, JAMES K. CARNEY, WILLIAM J. COMBS, TOMMY D. BENNET, and BARBRO M. L. KJELLSTROM, are the inventors with residence and citizenship as indicated below, have made an invention entitled **METHOD AND APPARATUS TO DETECT ISCHEMIA WITH A PRESSURE SENSOR** that is the subject of United States Utility Application Serial Number ( 12/263,423 ) , filed ( Oct. 31, 2008 ), [We hereby authorize the application serial number and filing date of said utility application to be inserted above in the parentheses when known];

WHEREAS, MEDTRONIC, INC., a corporation organized and existing under the laws of the State of Minnesota and having a principal place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5640, hereinafter referred to as "Corporation," is desirous of acquiring the entire right, title and interest in and to said invention for the United States and for all foreign countries and in and to any and all foreign and domestic Letters Patent which may be granted therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Corporation, its successors and assigns, the entire right, title and interest in and to said invention and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor including our rights under the International Convention for the Protection of Industrial Property, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Letters Patent that may be granted, the same to be held and enjoyed by Corporation for its own use and behoof and use and behoof of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made, and also hereby authorize Corporation and its employees to fill in the serial number and filing date above after this document has been executed;

AND, for the consideration aforesaid, we materially represent to Corporation, its successors and assigns, that at the time of the execution and delivery of these presents, we are the sole lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above mentioned, and that the same are unencumbered, and that we have good right and lawful authority to sell and convey the same in the manner herein set forth, and hereby grant Corporation the right to fill in the serial number and filing date in this document upon their receipt;

AND, for the consideration aforesaid, we hereby individually covenant and agree to and with Corporation, its successors and assigns, that whenever its counsel or the counsel of its successors or assigns, learned in the law, shall advise that an amendment or division of, or continuation or any continuation-in-part thereof, or any other proceeding in connection with the filing or prosecution of said domestic or foreign patent applications, including interference proceedings, is lawful and desirable, or that a reissue of extension of said Letters Patent is lawful

ASSIGNMENT  
Page 1 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

and desirable, we, or our executors, administrators or assigns will sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue or extension of the same, without charge to Corporation, its successors or assigns, but at Corporation's expense.

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
SARAH A. AUDET

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Sarah A. Audet, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 2 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0342**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this 10<sup>th</sup> day of February, 2008. *JKC*

*James K. Carney*  
JAMES K. CARNEY

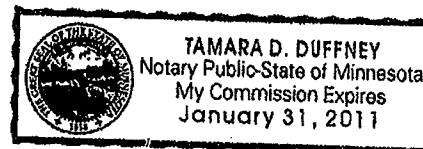
STATE OF MINNESOTA

COUNTY OF Ramsey

On this 10<sup>th</sup> day of February, 2008, before me personally appeared James K. Carney, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

*Tamara D. Duffney*  
Notary Public



ASSIGNMENT  
Page 3 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

PATENT  
REEL: 022988 FRAME: 0343

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**WILLIAM J. COMBS**

STATE OF

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared William J. Combs, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 4 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0344**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
TOMMY D. BENNETT

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Tommy D. Bennett, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 5 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0345**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**BARBRO M. L. KJELLSTROM**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Barbro M. L. Kjellstrom, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 6 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0346**

## ASSIGNMENT

WHEREAS, We, SARAH A. AUDET, JAMES K. CARNEY, WILLIAM J. COMBS, TOMMY D. BENNET, and BARBRO M. L. KJELLSTROM, are the inventors with residence and citizenship as indicated below, have made an invention entitled **METHOD AND APPARATUS TO DETECT ISCHEMIA WITH A PRESSURE SENSOR** that is the subject of United States Utility Application Serial Number ( 12/263,423 ) , filed ( Oct. 31, 2008 ), [We hereby authorize the application serial number and filing date of said utility application to be inserted above in the parentheses when known];

WHEREAS, MEDTRONIC, INC., a corporation organized and existing under the laws of the State of Minnesota and having a principal place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5640, hereinafter referred to as "Corporation," is desirous of acquiring the entire right, title and interest in and to said invention for the United States and for all foreign countries and in and to any and all foreign and domestic Letters Patent which may be granted therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Corporation, its successors and assigns, the entire right, title and interest in and to said invention and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor including our rights under the International Convention for the Protection of Industrial Property, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Letters Patent that may be granted, the same to be held and enjoyed by Corporation for its own use and behoof and use and behoof of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made, and also hereby authorize Corporation and its employees to fill in the serial number and filing date above after this document has been executed;

AND, for the consideration aforesaid, we materially represent to Corporation, its successors and assigns, that at the time of the execution and delivery of these presents, we are the sole lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above mentioned, and that the same are unencumbered, and that we have good right and lawful authority to sell and convey the same in the manner herein set forth, and hereby grant Corporation the right to fill in the serial number and filing date in this document upon their receipt;

AND, for the consideration aforesaid, we hereby individually covenant and agree to and with Corporation, its successors and assigns, that whenever its counsel or the counsel of its successors or assigns, learned in the law, shall advise that an amendment or division of, or continuation or any continuation-in-part thereof, or any other proceeding in connection with the filing or prosecution of said domestic or foreign patent applications, including interference proceedings, is lawful and desirable, or that a reissue of extension of said Letters Patent is lawful

ASSIGNMENT  
Page 1 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

and desirable, we, or our executors, administrators or assigns will sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue or extension of the same, without charge to Corporation, its successors or assigns, but at Corporation's expense.

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
SARAH A. AUDET

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Sarah A. Audet, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 2 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0348**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**JAMES K. CARNEY**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared James K. Carney, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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


ASSIGNMENT  
Page 3 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0349**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this 20 day of January, ~~2008~~ 2009

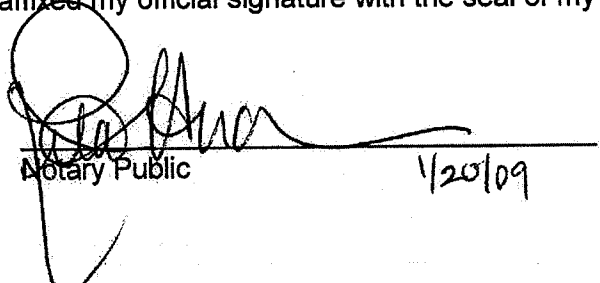
  
WILLIAM J. COMBS

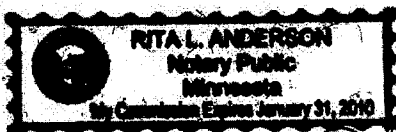
STATE OF Minnesota

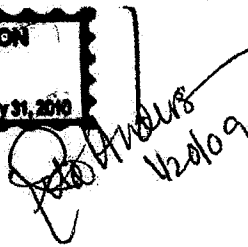
COUNTY OF Anoka

On this 20<sup>th</sup> day of January, ~~2008~~ 2009 <sup>at 4:20 PM</sup>, before me personally appeared William J. Combs, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

  
Notary Public 1/20/09



  
1/20/09

ASSIGNMENT  
Page 4 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

PATENT  
REEL: 022988 FRAME: 0350

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**TOMMY D. BENNETT**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Tommy D. Bennett, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 5 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0351**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**BARBRO M. L. KJELLSTROM**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Barbro M. L. Kjellstrom, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 6 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0352**

## ASSIGNMENT

WHEREAS, We, SARAH A. AUDET, JAMES K. CARNEY, WILLIAM J. COMBS, TOMMY D. BENNET, and BARBRO M. L. KJELLSTROM, are the inventors with residence and citizenship as indicated below, have made an invention entitled **METHOD AND APPARATUS TO DETECT ISCHEMIA WITH A PRESSURE SENSOR** that is the subject of United States Utility Application Serial Number ( 12/263,423 ) , filed ( Oct. 31, 2008 ), [We hereby authorize the application serial number and filing date of said utility application to be inserted above in the parentheses when known];

WHEREAS, MEDTRONIC, INC., a corporation organized and existing under the laws of the State of Minnesota and having a principal place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5640, hereinafter referred to as "Corporation," is desirous of acquiring the entire right, title and interest in and to said invention for the United States and for all foreign countries and in and to any and all foreign and domestic Letters Patent which may be granted therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Corporation, its successors and assigns, the entire right, title and interest in and to said invention and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor including our rights under the International Convention for the Protection of Industrial Property, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Letters Patent that may be granted, the same to be held and enjoyed by Corporation for its own use and behoof and use and behoof of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made, and also hereby authorize Corporation and its employees to fill in the serial number and filing date above after this document has been executed;

AND, for the consideration aforesaid, we materially represent to Corporation, its successors and assigns, that at the time of the execution and delivery of these presents, we are the sole lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above mentioned, and that the same are unencumbered, and that we have good right and lawful authority to sell and convey the same in the manner herein set forth, and hereby grant Corporation the right to fill in the serial number and filing date in this document upon their receipt;

AND, for the consideration aforesaid, we hereby individually covenant and agree to and with Corporation, its successors and assigns, that whenever its counsel or the counsel of its successors or assigns, learned in the law, shall advise that an amendment or division of, or continuation or any continuation-in-part thereof, or any other proceeding in connection with the filing or prosecution of said domestic or foreign patent applications, including interference proceedings, is lawful and desirable, or that a reissue of extension of said Letters Patent is lawful

ASSIGNMENT  
Page 1 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

and desirable, we, or our executors, administrators or assigns will sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue or extension of the same, without charge to Corporation, its successors or assigns, but at Corporation's expense.

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
SARAH A. AUDET

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Sarah A. Audet, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 2 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0354**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**JAMES K. CARNEY**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared James K. Carney, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 3 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0355**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**WILLIAM J. COMBS**

STATE OF

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared William J. Combs, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 4 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0356**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this 30<sup>th</sup> day of October, 2008.

Tommy D. Bennett  
TOMMY D. BENNETT

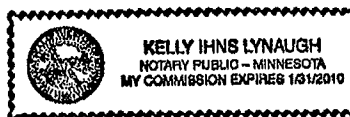
STATE OF MINNESOTA

COUNTY OF Ramsey

On this 30<sup>th</sup> day of October, 2008, before me personally appeared Tommy D. Bennett, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

Kelly Ihns Lynaugh  
Notary Public



ASSIGNMENT  
Page 5 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
**BARBRO M. L. KJELLSTROM**

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Barbro M. L. Kjellstrom, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 6 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0358**

**ASSIGNMENT**

WHEREAS, We, SARAH A. AUDET, JAMES K. CARNEY, WILLIAM J. COMBS, TOMMY D. BENNET, and BARBRO M. L. KJELLSTROM, are the inventors with residence and citizenship as indicated below, have made an invention entitled **METHOD AND APPARATUS TO DETECT ISCHEMIA WITH A PRESSURE SENSOR** that is the subject of United States Utility Application Serial Number ( 12/263,423 ) , filed ( Oct. 31, 2008 ), [We hereby authorize the application serial number and filing date of said utility application to be inserted above in the parentheses when known];

WHEREAS, MEDTRONIC, INC., a corporation organized and existing under the laws of the State of Minnesota and having a principal place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5640, hereinafter referred to as "Corporation," is desirous of acquiring the entire right, title and interest in and to said invention for the United States and for all foreign countries and in and to any and all foreign and domestic Letters Patent which may be granted therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto Corporation, its successors and assigns, the entire right, title and interest in and to said invention and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor including our rights under the International Convention for the Protection of Industrial Property, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Letters Patent that may be granted, the same to be held and enjoyed by Corporation for its own use and behoof and use and behoof of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made, and also hereby authorize Corporation and its employees to fill in the serial number and filing date above after this document has been executed;

AND, for the consideration aforesaid, we materially represent to Corporation, its successors and assigns, that at the time of the execution and delivery of these presents, we are the sole lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above mentioned, and that the same are unencumbered, and that we have good right and lawful authority to sell and convey the same in the manner herein set forth, and hereby grant Corporation the right to fill in the serial number and filing date in this document upon their receipt;

AND, for the consideration aforesaid, we hereby individually covenant and agree to and with Corporation, its successors and assigns, that whenever its counsel or the counsel of its successors or assigns, learned in the law, shall advise that an amendment or division of, or continuation or any continuation-in-part thereof, or any other proceeding in connection with the filing or prosecution of said domestic or foreign patent applications, including interference proceedings, is lawful and desirable, or that a reissue of extension of said Letters Patent is lawful

ASSIGNMENT  
Page 1 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

and desirable, we, or our executors, administrators or assigns will sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue or extension of the same, without charge to Corporation, its successors or assigns, but at Corporation's expense.

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
SARAH A. AUDET

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Sarah A. Audet, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 2 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

PATENT  
REEL: 022988 FRAME: 0360

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
JAMES K. CARNEY

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared James K. Carney, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 3 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0361**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
WILLIAM J. COMBS

STATE OF

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared William J. Combs, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 4 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0362**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
TOMMY D. BENNETT

STATE OF MINNESOTA

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 2008, before me personally appeared Tommy D. Bennett, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

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

ASSIGNMENT  
Page 5 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

**PATENT**  
**REEL: 022988 FRAME: 0363**

I hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

IN WITNESS WHEREOF, I have hereunto set my hand on this 2nd day of February, 2008<sup>9</sup>

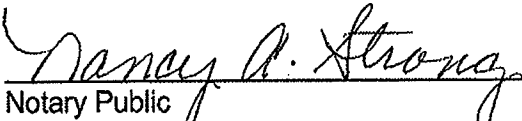
  
BARBRO M. L. KJELLSTROM

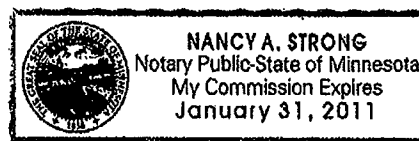
STATE OF MINNESOTA

COUNTY OF RAMSEY

On this 2<sup>ND</sup> day of FEBRUARY, 2008<sup>9</sup>, before me personally appeared Barbro M. L. Kjellstrom, to me known to be the person described in and who executed the foregoing instrument and acknowledged that s/he executed the same as his/her free act and deed.

IN WITNESS WHEREOF, I have hereunto affixed my official signature with the seal of my office, the day and year above written.

  
Notary Public



ASSIGNMENT  
Page 6 of 6  
P0025573.00

062032-014600  
OC 286,328,634v1 10-29-08

RECORDED: 07/22/2009

PATENT  
REEL: 022988 FRAME: 0364