

# 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>Gong Chen</td><td>10/13/2011</td></tr> <tr><td>Anthony Richard Gerardi</td><td>09/29/2011</td></tr> <tr><td>John Paul Mua</td><td>10/13/2011</td></tr> <tr><td>Darrell Eugene Holton Jr.</td><td>10/13/2011</td></tr> <tr><td>Daniel Verdin Cantrell</td><td>09/28/2011</td></tr> <tr><td>Frank Kelley St. Charles</td><td>10/13/2011</td></tr> <tr><td>Cheryl Cooper Scott</td><td>10/13/2011</td></tr> </tbody> </table> |                                | Name          | Execution Date                 | Gong Chen              | 10/13/2011            | Anthony Richard Gerardi | 09/29/2011    | John Paul Mua         | 10/13/2011     | Darrell Eugene Holton Jr. | 10/13/2011 | Daniel Verdin Cantrell | 09/28/2011 | Frank Kelley St. Charles | 10/13/2011 | Cheryl Cooper Scott | 10/13/2011 |
| Name  | Execution Date                 |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| Gong Chen   | 10/13/2011                     |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| Anthony Richard Gerardi   | 09/29/2011                     |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| John Paul Mua   | 10/13/2011                     |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| Darrell Eugene Holton Jr.   | 10/13/2011                     |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| Daniel Verdin Cantrell  | 09/28/2011                     |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| Frank Kelley St. Charles  | 10/13/2011                     |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| Cheryl Cooper Scott   | 10/13/2011                     |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <b>RECEIVING PARTY DATA</b>   |                                |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td><b>Name:</b></td><td>R. J. Reynolds Tobacco Company</td></tr> <tr><td><b>Street Address:</b></td><td>401 North Main Street</td></tr> <tr><td><b>City:</b></td><td>Winston-Salem</td></tr> <tr><td><b>State/Country:</b></td><td>NORTH CAROLINA</td></tr> <tr><td><b>Postal Code:</b></td><td>27101-3804</td></tr> </table>   |                                | <b>Name:</b>  | R. J. Reynolds Tobacco Company | <b>Street Address:</b> | 401 North Main Street | <b>City:</b>            | Winston-Salem | <b>State/Country:</b> | NORTH CAROLINA | <b>Postal Code:</b>       | 27101-3804 |                        |            |                          |            |                     |            |
| <b>Name:</b>  | R. J. Reynolds Tobacco Company |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <b>Street Address:</b>  | 401 North Main Street          |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <b>City:</b>  | Winston-Salem                  |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <b>State/Country:</b>   | NORTH CAROLINA                 |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <b>Postal Code:</b>   | 27101-3804                     |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <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 style="width: 70%;">Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13228912</td> </tr> </tbody> </table>   |                                | Property Type | Number                         | Application Number:    | 13228912              |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| Property Type   | Number                         |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| Application Number:   | 13228912                       |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <b>CORRESPONDENCE DATA</b>  |                                |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |
| <p>Fax Number: (919)755-2150</p> <p>Phone: 404-872-7000</p> <p>Email: IPDocketing@WCSR.COM</p> <p><i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i></p> <p>Correspondent Name: WOMBLE CARLYLE SANDRIDGE &amp; RICE, LLP</p> <p>Address Line 1: ATTN: IP DOCKETING</p> <p>Address Line 2: P.O. BOX 7037</p> <p>Address Line 4: ATLANTA, GEORGIA 30357-0037</p>   |                                |               |                                |                        |                       |                         |               |                       |                |                           |            |                        |            |                          |            |                     |            |

CH \$40.00 13228912

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**PATENT**  
**REEL: 027269 FRAME: 0181**

|   |                         |
|---|-------------------------|
| ATTORNEY DOCKET NUMBER:   | R60999 1382.1 (0295.5)  |
| NAME OF SUBMITTER:  | Christopher M. Humphrey |
| <p>Total Attachments: 9</p> <p>source=R60999-1382-1Assignment#page1.tif</p> <p>source=R60999-1382-1Assignment#page2.tif</p> <p>source=R60999-1382-1Assignment#page3.tif</p> <p>source=R60999-1382-1Assignment#page4.tif</p> <p>source=R60999-1382-1Assignment#page5.tif</p> <p>source=R60999-1382-1Assignment#page6.tif</p> <p>source=R60999-1382-1Assignment#page7.tif</p> <p>source=R60999-1382-1Assignment#page8.tif</p> <p>source=R60999-1382-1Assignment#page9.tif</p> |                         |

**WORLDWIDE INVENTION ASSIGNMENT**

WHEREAS, the undersigned (hereinafter referred to as "Assignor") has or may have invented certain inventions and improvements disclosed in the United States patent application entitled **"THERMAL TREATMENT PROCESS FOR TOBACCO MATERIALS"** and designated as

- ☒ Application No. 13/228,912; filed September 9, 2011
- ☐ Application claims priority from Application No. 12/476,621, filed June 2, 2009, all applications listed above being hereinafter referred to as the "application(s)";

WHEREAS, it is agreed that

R.J. Reynolds Tobacco Company  
401 North Main Street  
Winston-Salem, NC 27101-3804

(hereinafter referred to as "Assignee"), is entitled to or is desirous of acquiring all right, title and interest related to the same;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor, by these presents, does sell, assign and transfer unto Assignee the full, exclusive and entire right, title and interest, worldwide: (i) in and to all inventions and improvements disclosed and described in the Application(s); (ii) in and to said Application(s) and any other United States national stage, provisional, non-provisional, divisional, continuation, continuation-in-part, or design patent applications based in whole or in part upon said inventions or improvements and/or claiming priority to said Application(s) (the "U.S. Applications"); (iii) in and to any Patent Cooperation Treaty applications based in whole or in part upon said inventions or improvements and/or claiming priority to said Application(s); (iv) in and to any and all applications for industrial property protection, including without limitation applications for patent, utility model, inventor's certificate, and design, filed or which are hereafter filed in countries outside the United States (the "Foreign Applications") and which describe in whole or in part said inventions and improvements, said Foreign Applications to be filed and issued in the name of Assignee or its designee insofar as permitted by applicable law; (v) in and to all patents or similar protective rights in the United States or elsewhere which may be granted on the U.S. Applications and Foreign Applications and all reissues, reexaminations, and extensions thereof, any and all such patents or other protective rights to issue in the name of Assignee and for the sole use and behoof

of Assignee and its successors and assigns; and (vi) in and to the right to claim any applicable foreign or domestic priority rights arising from or required for any of the aforementioned applications under the terms of any applicable conventions, treaties, statutes, or regulations.

AND, for the same consideration, Assignor agrees to (i) communicate to Assignee, its successors, legal representatives and assigns, any facts known to Assignor respecting said inventions and improvements or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may embody said inventions or improvements; (ii) sign or execute all lawful papers, applications, declarations, affidavits, assignments and rightful oaths that may be requested by Assignee during prosecution or enforcement of any rights related to the inventions and improvements; (iii) testify in any proceedings relating to said inventions or improvements or rights granted therefor; and (iv) generally do everything possible to aid Assignee and its successors, legal representatives and assigns, to obtain and enforce proper protection for all said inventions and improvements in all countries throughout the world.

Assignor covenants with Assignee, its successors, legal representatives and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned. Assignor further agrees that Assignee, its successors, legal representatives and assigns, may insert into this Assignment any further text necessary or desirable to define the Applications to which the Assignment pertains for purposes of recordation, and also agrees that the Assignment is effective at least as early as June 2, 2009 the earliest priority date of the Application(s).

10/13/2011  
Date

Gong Chen  
Gong Chen

State of North Carolina )  
County of Forsyth )

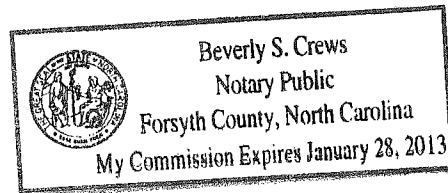
I, Beverly S Crews, a Notary Public for said County and State, do hereby certify that Gong Chen personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 13 day of October, 2011.

(Official Seal)

My commission expires 1/28/2013

Beverly S Crews  
Notary Public



Date Sept. 29, 2011

Anthony Richard Gerardi  
Anthony Richard Gerardi

State of North Carolina )

County of Forsyth )

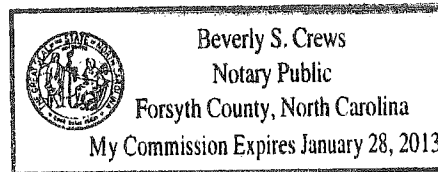
I, Beverly S. Crews, a Notary Public for said County and State, do hereby certify that Anthony R. Gerardi personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 29 day of September, 2011.

(Official Seal)

My commission expires January 28, 2013

Beverly S. Crews  
Notary Public



10/13/2011  
Date

John Paul Mua  
John-Paul Mua

State of North Carolina  
County of Forsyth

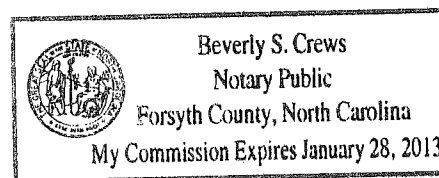
I, Beverly S Crews, a Notary Public for said County and State, do hereby certify that John Paul Mua personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 13 day of October, 2011.

(Official Seal)

My commission expires 1/28/2013

Beverly S Crews  
Notary Public



Date 10/13/2011

Darrell Eugene Holton, Jr.  
Darrell Eugene Holton, Jr.

State of North Carolina

County of Forsyth

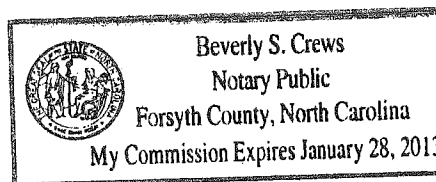
I, Beverly S. Crews, a Notary Public for said County and State, do hereby certify that Darrell E. Holton, Jr. personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 13 day of October, 2011.

(Official Seal)

Beverly S. Crews  
Notary Public

My commission expires 1/28/2013





Date 9/28/11

Daniel Verdin Cantrell  
Daniel Verdin Cantrell

State of North Carolina

County of Forsyth

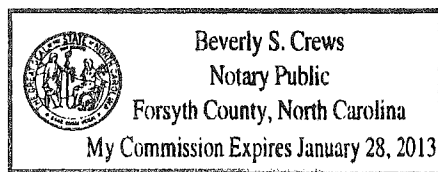
I, Beverly S Crews, a Notary Public for said County and State, do hereby certify that Daniel V. Cantrell personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 28 day of September, 2011

(Official Seal)

My commission expires 1/28/2013

Beverly S Crews  
Notary Public



10/13/2011  
Date

Frank Kelley St. Charles  
Frank Kelley St. Charles

State of North Carolina )

County of Forsyth )

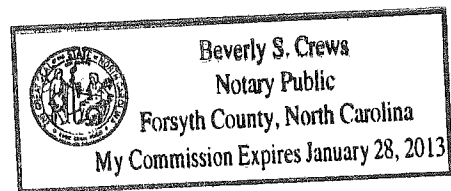
I, Beverly S. Crews, a Notary Public for said County and State, do hereby certify that Frank K. St. Charles personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 13 day of October, 2011.

(Official Seal)

Beverly S. Crews  
Notary Public

My commission expires 1/28/2013



10-13-2011  
Date

Cheryl Cooper Scott  
Cheryl Cooper Scott

State of North Carolina  
County of Forsyth

I, Beverly S Crews, a Notary Public for said County and State, do hereby certify that Cheryl Cooper Scott personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this the 13 day of October, 2011.

(Official Seal)

My commission expires 1/28/2013

Beverly S Crews  
Notary Public

