503562567 11/10/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3609194

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
LIGNOL INNOVATIONS LTD.	01/30/2015

RECEIVING PARTY DATA

Name:	FIBRIA INNOVATIONS INC.
Street Address:	1200 WATERFRONT CENTRE
Internal Address:	200 BURRARD STREET
City:	VANCOUVER, BRITISH COLUMBIA
State/Country:	CANADA
Postal Code:	V7XIT2

PROPERTY NUMBERS Total: 1

Property Type	Number
Patent Number:	8431635

CORRESPONDENCE DATA

Fax Number: (650)838-4350

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 650-838-4300

Email: kfarrell@perkinscoie.com
Correspondent Name: PERKINS COIE LLP
Address Line 1: P.O. BOX 1208

Address Line 4: SEATTLE, WASHINGTON 98111-1208

ATTORNEY DOCKET NUMBER:	117341-8104.US00
NAME OF SUBMITTER:	VIOLA T. KUNG
SIGNATURE:	/VIOLA T. KUNG/
DATE SIGNED:	11/10/2015

Total Attachments: 7

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PATENT ASSIGNMENT

THIS PATENT ASSIGNMENT (the "Assignment") is made effective as of January 30, 2015 (the "Effective Date"), by and between The Bowra Group Inc. ("Assignor"), in its capacity as court-appointed receiver over the assets, undertakings and properties of Lignol Innovations Ltd. ("Lignol"), including the proceeds thereof, and not in its personal capacity, and Fibria Innovations Inc. ("Assignee"), a company incorporated under the laws of the Province of British Columbia and having its registered office at 1200 Waterfront Centre, 200 Burrard Street, Vancouver, British Columbia, V7X 1T2. Assignor and Assignee are sometimes referred to herein individually as a "Party" and collectively as the "Parties". Capitalized terms used but not defined herein shall have the meaning ascribed to such terms in the Purchase Agreement (as defined herein).

RECITALS:

WHEREAS, Lignol is the owner of the patents and patent applications identified on Schedule "A" hereto (collectively, the "Assigned Patents"); and

WHEREAS, pursuant to the Purchase and Sale Agreement dated as of January 14, 2015 (the "<u>Purchase Agreement</u>") between Assignor and Assignee and the Approval and Vesting Order granted by the Supreme Court of British Columbia on January 16, 2015, Assignor is assigning to the Assignee all of Lignol's right, title and interest in, to and under the Assigned Patents;

NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged and in consideration of the mutual agreements, provisions and covenants contained in this Assignment, the Parties, intending to be legally bound, hereby agree as follows:

- 1. <u>Conveyance.</u> Effective as of the Effective Date, Assignor hereby sells, assigns, transfers, and conveys to Assignee its entire right, title and interest in, to and under the Assigned Patents and any goodwill symbolized thereby, both in Canada and in all foreign countries, including:
 - 1.1 all continuations, continuations-in-part, divisions, renewals, extensions and reissues of any of the Patents;
 - 1.2 all letters patent which may be granted with respect to patent applications that form part of the Patents;
 - 1.3 the right to claim all benefits and priority rights with respect to the Patents under any applicable convention; and
 - 1.4 the right to sue for all past and future infringements of, and to collect all past and future damages and royalties accruing from, any of the Patents.
- 2. <u>Issuance and Recordation.</u> Assignor hereby authorizes and requests the patent office, and any corresponding official of any country whose duty it is to register patents and applications, of any country in which the Assigned Patents are filed, to register any and

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all Assigned Patents in the name of Assignee, its successors and assigns, in accordance with the terms of this Assignment. Assignor hereby requests the patent office, and the corresponding officials or agencies in any other applicable jurisdiction, to record Assignee as the assignee and owner of the Assigned Patents. Assignee shall have the right to record this Assignment with all applicable government authorities and registrars so as to perfect its ownership of the Assigned Patents.

- 3. <u>No Modification.</u> Nothing contained in this Assignment is intended to or shall be deemed to modify, alter, amend or otherwise change any of the rights or obligations of Assignee or Assignor under the Purchase Agreement or any other agreement entered into by the Parties. Without limiting the foregoing, in the event and to the extent that there is a conflict between the provisions of this Assignment and the provisions of the Purchase Agreement, the provisions of the Purchase Agreement shall control.
- 4. <u>Successors and Assigns.</u> This Assignment shall be binding upon and enure to the benefit of the Parties and their respective successors and assigns.
- 5. <u>Counterparts.</u> This Assignment may be executed in one or more counterparts, each of which shall be deemed an original, and all of which shall constitute one and the same agreement and shall become effective when one or more counterparts have been signed by each of the Parties and delivered to the other Party, it being understood that both Parties need not sign the same counterpart.
- 6. <u>Interpretation.</u> The Article and Section headings contained in this Assignment are solely for the purpose of reference, are not part of the agreement of the Parties and shall not in any way affect the meaning or interpretation of this Assignment.
- 7. <u>Further Assurances.</u> Assignor and Assignee hereby covenant and agree, without the necessity of any further consideration, to execute, acknowledge, and deliver any and all such other documents and take any such other action as may be reasonably necessary or appropriate to implement this Assignment and carry out the intent and purposes of this Assignment.
- 8. Governing Law. This Assignment shall be governed by and construed and interpreted in accordance with the laws of the Province of British Columbia, Canada, and the federal laws of Canada applicable therein.

[Signature page follows]

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IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be executed by their duly authorized representatives as of the Effective Date.

A	CC	CN	OR.
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undertakings and properties of Lignol Innovations Lttl.
Name: Dowle Utivers
Title: SENIOR VD.
ASSIGNEE:
Fibria Innovations Inc., by its authorized signatory:
Name:
Title:

IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be executed by their duly authorized representatives as of the Effective Date.

The Bowra Group Inc., in its capacity as
court-appointed receiver over the assets,
undertakings and properties of Lignol
Innovations Ltd:

Name:	
Title:	

ASSIGNEE:

ASSIGNOR:

Fibria Innovations Inc., by its authorized signatory:

Name: VINICIUS NONINE

Title: Director

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SCHEDULE "A" ASSIGNED PATENTS

Assigned Patents

[Insert Schedule "B" from Purchase and Sale Agreement]

Signature page to Patent Assignment

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Confidential



Lignol Innovations Ltd. Intellectual Property Portfolio Summary

Lignol has created a robust portfolio of Intellectual Property. This portfolio can be divided into 3 broad segments:

- 1. A series of process and system patents based on Lignol's biorefinery technology. These have evolved over time, as improvements and innovations were found to the original "Alcell³" organosoly pre-treatment process. These patents are further supported by technical know-how, experience and expertise developed through years of applied research and operation of various processes at bench, pilut and pre-commercial scale. These patents are summarized in Appendix 1.
- 2. A series of lignin composition of matter and other patents which claim a wide range of lignin derivatives based on their chemical and functional characteristics, such as aliphatic hydroxyl content, normalized radical scavenging index (nRSI), molecular weight, etc. Lignol views these patents as most valuable as the claims capture lignins produced by a number common manufacturing methods, including Kraft and other pulping processes. In addition, these patents cover most of the lignocellulosic feedstocks, including hardwoods, softwoods and annual fibres. Six of these patents have already been granted or allowed in the US, with others pending in CA, ER, BR, CN, etc. These patents are summarized in Appendix 2.

Any manufacturer wishing to make, use or sell lightn products within the patented countries will have to ensure their products, or intermediate products, do not fall within the claim scope of these patents. This could at a minimum involve costly and time consuming analytical testing of their lightn products for multiple properties to ensure non-intringement. Furthermore, any change in process conditions, environmental conditions, or feedstock composition will necessitate additional testing and/or actions to avoid infringement.

A number of lightn application patents which target specific end-use. These
patents are summarized in Appendix 3.

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¹ The Alcell process was developed by Repap in the mid 1980's through to inte 1990's as an alternative sulphur-free pulping process to produce high quality pulp and high value-added coproducts, amin'y lignin and flurural. Lignol acquired all rights to the Alcell process, along with technical design and operation data in early 2000's.

		02398860	1-Nov-12	61/182,044 &	28/05/2009 & 12/05/2009	2,758,160	35-Feb-10	Derivatives of Apine Lighins Transamusi Fibre Feedstocks	58.29 58.29	V82992EA
				61/182,044 & 61/233,345	12/03/1009 &	FE 1612186-9	15 Feb 20	Berivatives of Native Lignos Inom Annasi Films Readstacks	вхаммалов	7879228R
		9085E1/070700M	2-Dec-10	61/182,034 & 61/233,345	28/97/2009 & 12/08/2009	C+5810/008510	15-feb-10	Dedivatives of native lignies from softward feedstacks	Bational Phase	OWIGETON
		05001402067999	24-501-24	61/192,044 \$ 61/293,345 12/705,936 13/825/608	28-2603-09 12-2603-09 18-2605-10 14-663-23	10/188285	\$3.Feb.7\$	Derivatives of Native Lignia Finan Softwaced Feedstocks	EXAMBIATION	300303636628A
US 21.895, 855	15-Apr-34	082823/6228298	5-Sep-13	63/282.044 61/233.348 11/705.938	28-Way-09 12-Aug-08 15-∓ah-10	13/829608	34-Map-13	Derivatives of Native Lignos From Softwood Feydstocks	03/1288	AKSPITERFÄN
25378783333	30 Acr 13	US2010/0305243	2-Dec-10	61/181,044 8 61/233,345	28-May-09 12-Aug-09	12/705938	25 Feb 10	Denicatives of Rotive Lignors From Softwood Feedstocks	230,820	\$97566788
		8510757DELMP2011	Z¥-0c1-12	61/182,044 &	28.65ay 09 32.6ag 39	10257/08186/2023	15-Feb-18	Derivatives of Makive Ligorics From Softwood Feedstocks	NORTHWEAK)	MT6678A
		E22435455	3-Apr-12	61/233.345 61/233.345	13-May-08 13-448-08	9.58665.503	15-Feb-16	Derhatkes at Natice Ligans From Sehrwood Feedstacks	WOJENWANAKE	637.06728A
		CM192503281	18-Nov-12	61/182,044 &	28-May-09 12-May-19	20)09(0025025 8	15-Sep-30	Detvatives of Native Ligoris From Softwood Feedstocks	5192 5 834 Cu. Bowd Chrocksh; 38 NVO LAB OBROCKPRE INSSYE	A36658A
		CA1798161	1-Nox-12	\$\$£\$£\$£/183 \$\$£\$£\$£/183	28-80ay-09 12-4-8-39	19188/2	15-feb-30	Derivatives of Native Lightins From Softwood Feedstacks	78ED	V82991CA
	*******			61/233,345	78-May-09	2024694-5	15 Feb 10	Serivatives of Native Ligning From Johnwood Feedstucks	EXAMBATICA	V42991BR
****	9000	408SE1/0102OM	7-Dec-10	61/135,345 61/182,044 &	12-kug-09 28-May-09 32-kug-19	CA3010/200205	15 Feb 10	Desiratives at native lignics	SATIONAL PHASE	785(790WO
				61/182,044.8	28 May 09	14/192360	5-307-14	Derivatives of Native Ligron	8860	7807350061880
<u> </u>	\$-Jul-34	US2013/0253U75	26-5ep-13	\$45,285,42 \$460,011/13	28-May-09 12-Aug-09	13/896254	16-Mey-13	Contratives of Matine Lighto	SSUED	WGDSEESERV
<u>US 8,445,562</u>	21-May-13	18205000305341	2-0ec-10	61/18Z,044 & 61/738,345	78-May-09 12-4ug-09	12/705434	15-Feb-10	Deffeathes of Native Ligona	SSUES	V82790US
		CLOKEN/140092CCR6	26-0ct-12	61/162,843 & 61/233,345	25-May-03 12-Aug-09	10260/DELNP/2013	15-5-65-10	Derivatives of Native Lignia	EXALBRATION	MOSTOCIA
		EP243S453	4-Apr-63	61/182,044 &	28-56ap-09 12-69g-09	2010-0779947	31 99±51	Derivatives of native lignine	ereso.	V82790EP
		CM102459426	16-May-12	61/187,944 & 61/233,745	28 Aday-09 12-Aug-08	201080029603.4	15 Feb 10	Berivatives of native begins	WEST THE STANKS	V82790CN
		CA2798858	£1-00%-1	61/182,044 & 61/233,345	25-46ay-02 12-Aug-09	2,798,158	15-Feb-10	Derivolizes of native bears	FRED	V82790CA
				61/182,004.8 61/133,345	28-May 09 12-408-19	3-000-4101	15-Feb-20	Derivatives of native ligning	MONTANIMACION	V8179088
Patent #	Exsue date	Publ.#	Publ. Date	Priority #	Priority date	K naistailadh	filing date	1)()k	Status	\$385.8 8



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