

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5296560

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	FIRST LIEN INTELLECTUAL PROPERTY SECURITY AGREEMENT

**CONVEYING PARTY DATA**

Name	Execution Date
NEMCOMED, INC.	12/21/2018
VIPER TECHNOLOGIES, LLC	12/21/2018
AVALIGN TECHNOLOGIES, INC.	12/21/2018
ADVANTIS MEDICAL, INC.	12/21/2018

**RECEIVING PARTY DATA**

<b>Name:</b>	KEYBANK NATIONAL ASSOCIATION
<b>Street Address:</b>	127 PUBLIC SQUARE
<b>City:</b>	CLEVELAND
<b>State/Country:</b>	OHIO
<b>Postal Code:</b>	44114

**PROPERTY NUMBERS Total: 10**

Property Type	Number
Patent Number:	D523142
Patent Number:	D522140
Patent Number:	7883662
Patent Number:	8124187
Patent Number:	9404173
Application Number:	15195624
Application Number:	62470398
Application Number:	15918358
Application Number:	16183255
Application Number:	16160400

**CORRESPONDENCE DATA**

**Fax Number:** (216)579-0212

*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:** 2165863939

**Email:** pcyngier@jonesday.com

**Correspondent Name:** AMANDA B. BRYK

**Address Line 1:** 901 LAKESIDE AVENUE

**PATENT**

**Address Line 2:** JONES DAY  
**Address Line 4:** CLEVELAND, OHIO 44114-1190

<b>ATTORNEY DOCKET NUMBER:</b>	601755-185107
<b>NAME OF SUBMITTER:</b>	AMANDA B. BRYK
<b>SIGNATURE:</b>	/AMANDA B. BRYK/
<b>DATE SIGNED:</b>	12/21/2018

**Total Attachments: 9**

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## FIRST LIEN INTELLECTUAL PROPERTY SECURITY AGREEMENT

This FIRST LIEN INTELLECTUAL PROPERTY SECURITY AGREEMENT (this "Agreement") is made as of December 21, 2018 between the signatories hereto (collectively, the "Grantor") in favor of KEYBANK NATIONAL ASSOCIATION, as collateral agent for the Secured Parties (in such capacity, the "Collateral Agent").

### RECITALS:

WHEREAS, reference is made to that certain First Lien Guarantee and Collateral Agreement, dated as of December 21, 2018 (as it may be amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Guarantee and Collateral Agreement"; terms used in this Agreement and not otherwise defined herein have the meanings set forth in the Guarantee and Collateral Agreement), by and among the Grantor, the other grantors party thereto and the Collateral Agent; and

WHEREAS, under the terms of the Guarantee and Collateral Agreement, the Grantor has (i) as collateral security for the Obligations, granted to the Collateral Agent a security interest in all of such Grantor's right, title and interest in, to and under the Collateral, including, without limitation, certain Intellectual Property of the Grantor and (ii) agreed to execute this Agreement for recording with the United States Patent and Trademark Office or the United States Copyright Office, as applicable.

NOW, THEREFORE, in consideration of the premises and the agreements, provisions and covenants herein contained, each of the Grantor and the Collateral Agent hereby agree as follows:

SECTION 1. Grant of Security. As collateral security for the Obligations, the Grantor hereby grants to the Collateral Agent a security interest in all of such Grantor's right, title and interest in, to and under the following, whether now owned or hereafter acquired, excluding, however, any of the following that is an Excluded Asset (collectively, the "Intellectual Property Collateral"):

(a) (i) All trademarks, service marks, trade names, corporate names, company names, business names, fictitious business names, trade styles, trade dress, logos, other source or business identifiers, designs and general intangibles of like nature, now existing or hereafter adopted or acquired, all registrations and recordings thereof, and all registration and recording applications filed in connection therewith, including registrations and registration applications in the United States Patent and Trademark Office (or any successor office) or any similar offices in any State of the United States, and all extensions or renewals thereof, including those listed on Schedule 1 hereto, (ii) all goodwill associated therewith or symbolized thereby and (iii) all other assets, rights and interests that uniquely reflect or embody such goodwill, but, for clarity, excluding any intent-to-use trademark application prior to the filing and acceptance of a "Statement of Use" or "Amendment to Allege Use" with respect thereto, to the extent, if any, that, and solely during the period, if any, in which the grant, attachment or enforcement of a security interest therein would impair the validity or enforceability, or result in the voiding, of such intent-to-use trademark application or any registration issuing therefrom under applicable

federal Law and, except to the extent perfected by the filing of a UCC financing statement, any non-U.S. intellectual property.

(b) (i) All patents of the United States, all registrations and recordings thereof, and all applications for patents of the United States, including registrations, recordings and pending applications in the United States Patent and Trademark Office (or any successor office), including those listed on Schedule 2 hereto, and (ii) all provisionals, reissues, continuations, divisions, continuations-in-part, reexaminations, revisions, renewals or extensions thereof, and the inventions or designs disclosed or claimed therein, including the right to make, use, import and/or sell the inventions or designs disclosed or claimed therein.

(c) (i) All copyright rights in any work subject to the copyright laws of the United States, whether as author, assignee, exclusive licensee, transferee or otherwise, and (ii) all registrations and applications for registration of any such copyright in the United States, including registrations, recordings, supplemental registrations and pending applications for registration in the United States Copyright Office (or any successor office), including those listed on Schedule 3 hereto.

SECTION 2. Recordation. The parties hereto authorize and request that the Commissioner of Patents and Trademarks or the United States Copyright Office, as applicable, and any other applicable government officer record this Agreement.

SECTION 3. Counterparts. This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this Agreement by facsimile or in electronic (i.e., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart of this Agreement.


SECTION 4. Governing Law. THIS AGREEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF NEW YORK.

SECTION 5. Conflict Provision. This Agreement has been entered into in conjunction with the provisions of the Guarantee and Collateral Agreement and the Credit Agreement. The rights and remedies of each party hereto with respect to the security interest granted herein are without prejudice to those set forth in the Guarantee and Collateral Agreement and the Credit Agreement, all terms and provisions of which are incorporated herein by reference. In the event that any provisions of this Intellectual Property Security Agreement are in conflict with the Guarantee and Collateral Agreement or the Credit Agreement, the provisions of the Guarantee and Collateral Agreement or the Credit Agreement shall govern.

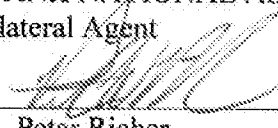
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IN WITNESS WHEREOF, each Grantor and the Collateral Agent have caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the date first written above.

NEMCOMED, INC.  
VIPER TECHNOLOGIES, LLC  
AVALIGN TECHNOLOGIES, INC.  
ADVANTIS MEDICAL, INC.  
each as Grantor

By:   
Name: Kimberly Simonon  
Title: Chief Financial Officer

KEYBANK NATIONAL ASSOCIATION,  
as Collateral Agent

By:  \_\_\_\_\_

Name: Peter Richer


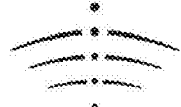

Title: Managing Director

[SIGNATURE PAGE TO FIRST LIEN INTELLECTUAL PROPERTY SECURITY AGREEMENT]

**PATENT**  
**REEL: 047975 FRAME: 0251**

**SCHEDULE 1  
TRADEMARKS**

Owner: Aalign Technologies, Inc.

<b>Mark</b>	<b>App. No.</b>	<b>Filing Date</b>	<b>Registration No.</b>	<b>Registration Date</b>
AVALIGN	87345939	22-FEB-2017		
AVALIGN	77120068	01-MAR-2007	3883209	30-NOV-2010
AVALIGN	77975196	01-MAR-2007	3440565	03-JUN-2008
AVALIGN TECHNOLOGIES  	77975078	01-MAR-2007	3449379	17-JUN-2008
AVALIGN TECHNOLOGIES	77120043	01-MAR-2007	3919999	15-FEB-2011
AVALIGN TECHNOLOGIES	77120077	01-MAR-2007	3908280	18-JAN-2011
<i>Design Only</i>  	77120021	01-MAR-2007	3914633	01-FEB-2011
<i>Design Only</i>  	77975170	01-MAR-2017	3440564	03-JUN-2008
AVALIGN TECHNOLOGIES	77975195	01-MAR-2007	3449380	17-JUN-2008
AVALIGN	87593998	01-SEP-2017	5437557	03-APR-2018

AVALIGN EDGE	77632359	12-DEC-2008	4002831	26-JUL-2011
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Owner: Advantis Medical, Inc.

<b>Mark</b>	<b>App. No.</b>	<b>Filing Date</b>	<b>Registration No.</b>	<b>Registration Date</b>
ADVANTIS	78945424	4-AUG-2006	3485022	12-AUG-2008



**SCHEDULE 2  
PATENTS**

Owner: Nemcomed, Inc.

<b>Title</b>	<b>Serial No.</b>	<b>Patent No.</b>	<b>Filing Date</b>	<b>Issue Date</b>	<b>Current Status</b>
Orthopedic Retractor	29227581	D523142	13-APR-2005	13-JUN-2006	Issued Design Patent
Orthopedic Retractor	29227735	D522140	14-APR-2005	30-MAY-2006	Issued Design Patent

Owner: Viper Technologies LLC

<b>Title</b>	<b>Ser. No.</b>	<b>Pub. No.</b>	<b>Pat. No.</b>	<b>Owner of Record</b>
Metal Injection Molding Methods And Feedstocks	11/941,018	20090129961	7,883,662	Viper Technologies LLC, d.b.a. Thortex, Inc.
Methods Of Forming Porous Coatings On Substrates	12/555,440	20110059268	8,124,187	Viper Technologies LLC, d.b.a. Thortex, Inc.
Methods Of Preparing A Surface Of A Cast Zirconium Alloy Substrate For Oxidation	14/061,466	20150107721	9,404,173	Viper Technologies LLC

Patent Applications

<b>Title</b>	<b>Ser. No.</b>	<b>Pub. No.</b>	<b>Pat. No.</b>	<b>Applicant</b>
Methods Of Forming An Oxide Layer On A Metal Body	15/195,624	20160305005	N/A	Viper Technologies LLC
Bracket Assembly	62/470398	N/A	N/A	Avalign Technologies, Inc.
Bracket Assembly	15/918,358	N/A	N/A	Avalign Technologies, Inc.
Alignment Guide for Reamer Shaft	16183255	N/A	N/A	Avalign Technologies, Inc.
Reamer Shaft Extension Assembly	16160400	N/A	N/A	Avalign Technologies, Inc.
Three Layer Unicompartmental Knee	(Invention Disclosure)	N/A	N/A	N/A

**SCHEDULE 3  
COPYRIGHTS**

None.