less than about 800 ppm of a spin solvent, and less than 1000 ppm of further constituents.

Kuhn teaches:

Silicone rubber composition comprising pigments containing aluminum-chromium-cobalt oxide (paragraph 111).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ pigments containing aluminum-chromium-cobalt oxide as taught by Kuhn into the suture of Dirks as a substitution of one known method of dying for another. With regards to the percentage of inorganic pigment used, Kuhn discloses the claimed invention except for percentage of inorganic pigment used, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the percentage of inorganic pigment used, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

In regards to the limitation of a residual amount of less than about 800 ppm of a spin solvent, the residual amount of less than 1000 ppm, 500 ppm, 200 ppm of further constituents, and the suture consist of gel-spun filaments, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have an UHMWPE suture containing the residual amount of less than about 800 ppm of spin solvent, less than 1000 ppm, 500 ppm, 200 ppm of further constituents, and consist of gel-spun filaments since the more pure the material, UHMWPE, and the less of other constituent or other materials, the stronger the strength for the suture.

4. Claims 21-24 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Dirks in view of Kuhn and further in view of US 2004/0267313 to Amery et al. (Amery).

Dirks in view of Kuhn teaches:

The suture according to claim 16 (see rejection of claim 16 above).

Dirks in view of Kuhn fails to teach:

The filaments contain a residual amount of less than 500 ppm, 250 ppm, 100 ppm, and 60 ppm of the spin solvent.

Amery teaches:

A high strength multi-component surgical cord comprising the spinning solvent in UHMWPE suture should be below 100 ppm to prevent irritation in humans (para. 29) is old and well known in the art.

Dirks in view of Kuhn and further in view of Amery discloses the claimed invention except for the ranges of the residual amount in the filaments of less than 500 ppm, 250 ppm, 100 ppm and 60 ppm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the residual amount in the filaments as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Response to Arguments

5. Applicant's arguments, see argument remarks on pages 5-17, filed 11/20/2014, with respect to the rejection(s) of claim(s) 16-18 and 20-24 under 35 USC 103(a) rejections have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of 35 USC 103(a) rejections over Dirks in view of Kuhn and further in view of Amery as explained in the above rejection paragraphs.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON DANG whose telephone number is (571)270-5809. The examiner can normally be reached on Monday-Friday 10:00 AM - 6:00 PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, ***please contact the examiner's supervisor, Elizabeth Houston, at* (571) 272-7134**. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If there are any inquiries that are not being addressed by first contacting the Examiner or the Supervisor, you may send an email inquiry to TC3700_Workgroup_D_Inquiries@uspto.gov.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. D./
Examiner, Art Unit 3773

/ELIZABETH HOUSTON/
Supervisory Patent Examiner, Art Unit 3773

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	12/599869	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:50
S2	2	("20030050667" | "5613987").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:52
S3	824	606/228.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:52
S4	644	suture and ((ultra-high near3 polyethylene) or UHMwPE)	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:55
S5	202	suture same ((ultra-high near3 polyethylene) or UHMwPE)	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:55
S6	5	suture same ((ultra-high near3 polyethylene) or UHMwPE) same multi-filament	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:56
S7	12	suture same ((ultra-high near3 polyethylene) or UHMwPE) and dl/g	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:57
S8	1	suture same ((ultra-high near3 polyethylene) or UHMwPE) same dl/g	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:57
S9	12	suture same ((ultra-high near3 polyethylene) or UHMwPE) and dl/g	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:58
S10	12	suture same ((ultra-high near3 polyethylene) or UHMwPE) and dl/g	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 11:59
S11	1	suture same ((ultra-high near3 polyethylene) or UHMwPE) same dl/g	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 12:00
S12	32	Simmelink.inv.	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 13:26
S13	14	Simmelink.inv. and suture	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 13:26
S14	65	S3 and suture and ((ultra-high near3 polyethylene) or UHMwPE)	US-PGPUB; USPAT; USOCR	OR	OFF	2012/07/02 13:27
S15	33	UHMwPE and spinning and solvent and pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 14:08
S16	26	(suture or filament) and UHMwPE and spinning and solvent and pigment	US-PGPUB; USPAT;	OR	OFF	2013/05/22 14:08

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			USOCR			
S17	2	(suture or filament) and UHMwPE same spinning same solvent same pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 14:08
S18	10	(suture or filament) and UHMwPE and spinning with solvent and pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 14:11
S19	404	spinning same solvent same pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:00
S20	1	suture same spinning same solvent same pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:01
S21	343	UHMwPE and pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:19
S22	49	(suture or filament) and UHMwPE and solvent and pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:19
S23	2	(suture or filament) and UHMwPE same solvent same pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:21
S24	3	(suture or filament) same UHMwPE same pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:22
S25	2	suture same UHMwPE same pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:26
S26	2	suture and UHMwPE same pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:27
S27	25	suture and UHMwPE and pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:27
S28	74	suture and UHMwPE and pigment	US-PGPUB; USPAT; USOCR	OR	ON	2013/05/22 15:27
S29	9	suture and multi-filament and UHMwPE and pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:28
S30	6	(US-20080004702-$ or US-20030050667-$ or US-20080287990-$ or US-20090048628-$ or US-20070154707-$).did. or (US-5370911-$).did.	US-PGPUB; USPAT	OR	ON	2013/05/22 15:34
S31	1	S30 and pigment	US-PGPUB; USPAT; USOCR	OR	ON	2013/05/22 15:35
S32	2	suture same UHMwPE same pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:35
S33	117	suture with pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:36
S34	1	suture and multi-filament with pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:36

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S35	9	multi-filament and UHMwPE and pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:37
S36	2	multi-filament same UHMwPE and pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:37
S37	2	multi-filament and suture with pigment	US-PGPUB; USPAT; USOCR	OR	OFF	2013/05/22 15:43
S38	966	606/228.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2014/06/02 14:49
S39	9	(US-20080004702-$ or US-20030050667-$ or US-20080287990-$ or US-20090048628-$ or US-20070154707-$).did. or (US-5370911-$ or US-4008303-$ or US-5651377-$ or US-6060007-$).did.	US-PGPUB; USPAT	OR	ON	2014/07/09 13:15
S40	4	S39 and gel	US-PGPUB; USPAT; USOCR	OR	ON	2014/07/09 13:15
S41	1	"05076531.2"	US-PGPUB; USPAT; USOCR	OR	ON	2014/07/09 13:17
S42	1	"05076531.2"	US-PGPUB; USPAT; USOCR; EPO	OR	ON	2014/07/09 13:17
S43	1	"05076531.2"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/07/09 13:17
S44	4	S39 and intrinsic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/07/09 13:19
S45	3835	suture and pigment and (weight or wt)	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 16:47
S46	576	suture and pigment same (weight or wt)	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 16:47
S47	84	suture same pigment same (weight or wt)	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 16:47
S48	2	"11069705"	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 16:53
S49	415801	suture same pigment same inorganic pigment	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:08
S50	24	suture same pigment same inorganic	US-PGPUB;	OR	ON	2014/08/12

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			USPAT; USOCR			17:09
S51	17	suture same pigment with inorganic	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:13
S52	1	suture same pigment with chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:31
S53	4	suture same pigment same chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:32
S54	4	suture same pigment same chromium same oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:33
S55	46	suture same chromium same oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:33
S56	31	suture same chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:33
S57	6	suture with chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:33
S58	16242	pigment same chromium same oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:35
S59	13398	pigment with chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:36
S60	1	suture same pigment with chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:36
S61	59	suture and pigment with chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:36
S62	31	filament same pigment with chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:46
S63	3	filament with pigment with chromium with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 17:48
S64	6	aluminum-chromium-cobalt	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:08
S65	4	aluminum-chromium-cobalt with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:08
S66	9584	aluminum with chromium with cobalt with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:13
S67	83	(suture or filament) same aluminum with chromium with cobalt with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:13
S68	15	(suture or filament) with aluminum with chromium with cobalt with oxide	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:14
S69	253	UHMWPE and intrinsic and viscosity and	US-PGPUB;	OR	ON	2014/08/12

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		dl/g	USPAT; USOCR			18:30
S70	132	UHMWPE same intrinsic same viscosity same dl/g	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:30
S71	132	UHMWPE same intrinsic with viscosity same dl/g	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:30
S72	88	UHMWPE same intrinsic with viscosity with dl/g	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:30
S73	70	UHMWPE with intrinsic with viscosity with dl/g	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:30
S74	24	suture and (UHMWPE with intrinsic with viscosity with dl/g)	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:30
S75	1	suture same (UHMWPE with intrinsic with viscosity with dl/g)	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:31
S76	29	multifilament and (UHMWPE with intrinsic with viscosity with dl/g)	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/12 18:34
S77	4	2004/0267313	US-PGPUB; USPAT; USOCR	OR	OFF	2014/08/14 14:45
S78	1	"20040267313"	US-PGPUB; USPAT; USOCR	OR	OFF	2014/08/14 14:46
S79	1	"5,665,062".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2014/08/14 15:09
S80	183	A61L17/04.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:45
S81	339	D01F1/04.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:45
S82	777	D01F6/04.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:45
S83	250	D07B1/025.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:45
S84	183	A61L17/04.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:46
S85	5436	C08L23/06.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:46
S86	163	D07B2205/2014.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:46
S87	163	D07B2205/2014.cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:46
S88	539	D07B2801/10.cpc.	US-PGPUB;	OR	OFF	2015/03/23

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			USPAT; USOCR			12:46
S89	7175	S80 S81 S82 S83 S84 S85 S86 S87 S88	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:46
S90	114	S89 and suture and ((ultra-high near3 polyethylene) or UHMwPE)	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:47
S91	15	S89 and suture same ((ultra-high near3 polyethylene) or UHMwPE) and dl/g	US-PGPUB; USPAT; USOCR	OR	OFF	2015/03/23 12:47
S92	20	(US-20080004702-$ or US-20030050667-$ or US-20080287990-$ or US-20090048628-$ or US-20070154707-$ or US-20080124368-$ or US-20060045899-$ or US-20050208096-$ or US-20060263432-$ or US-20060084745-$ or US-20090012251-$ or US-20040267313-$).did. or (US-5370911-$ or US-4008303-$ or US-5651377-$ or US-6060007-$).did. or (US-3698853-$ or US-3166073-$ or US-3565652-$ or US-3057040-$).did.	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/23 13:08
S93	8	S92 and mass	US-PGPUB; USPAT; USOCR	OR	ON	2015/03/23 13:08

EAST Search History (Interference)

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4/6/2015 12:18:49 PM
C:\ Users\ sdang\ Documents\ EAST\ Workspaces\ 12599869.wsp

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12599869	SIMMELINK ET AL.
	Examiner	Art Unit
	SON DANG	3773

CPC- SEARCHED		
Symbol	Date	Examiner
A61L17/04	4/6/2015	SD
D01F1/04	4/6/2015	SD
D01F6/04	4/6/2015	SD
D07B1/025	4/6/2015	SD
A61L17/04	4/6/2015	SD
C08L23/06	4/6/2015	SD
D07B2205/2014	4/6/2015	SD
D07B2801/10	4/6/2015	SD

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
606	228 with text search	7/2/2012	SD

SEARCH NOTES		
Search Notes	Date	Examiner
East Search History	7/2/2012	SD
forward and backward citations	7/2/2012	SD
PLUS SEARCH	7/2/2012	SD
INVENTOR SEARCH	7/2/2012	SD
Consult with SPE Corrine McDermott for rejection	7/2/2012	SD
Consult with Leo Tentoni, Erin Snelting and Jeffrey Wollschlager in class 264	7/2/2012	SD
Consult with Cachet Sellman in class 427	7/2/2012	SD
UPDATED SEARCH	5/23/2013	SD
Consult with SPE Corrine McDermott	5/23/2013	SD
Consult with Primary Julian Woo for Product by Process rejections	6/2/2014	SD
updated search	6/2/2014	SD

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
updated search	8/12/2014	SD
Consult with Primary Tuan Nguyen for rejections.	8/12/2014	SD

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	Confirmation No. **3921**
SIMMELINK et al.	Atty. Ref.: **BHD-4662-1326**
Appl. No. **12/599,869**	Examiner: **DANG, Phong Son H.**
Filed: **01/14/2010**	Art Unit: **3773**

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For: **COLORED STRUCTURE**

* * * * * * * * * * *

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Date: July 15, 2015

AMENDMENT IV

Sir:

The following comments are intended to be fully responsive to the "final" Official Action dated April 15, 2015, which set a nominal response due date of July 15, 2015.

REMARKS

Entry of this amendment and favorable reconsideration and allowance of this application are requested.

Claims 16-18 and 20-31 as presented with the applicants' amendment dated November 20, 2014 ("Amendment III") remain pending herein for consideration. As will become evident from the following discussion, all such pending claims are in condition for allowance.

1. Claim Rejections – 35 USC §103

All pending claims remain rejected under 35 USC §103(a) for allegedly being unpatentably obvious. Specifically, claims 16-18, 20 and 25-31 are rejected under 35 USC §103(a) as allegedly being unpatentably obvious over Dirks et al (US 2009/0012251) in view of Kuhn (US 2006/00845745), while Amery et al (US 2004/0267313) has been added to such applied references to reject claims 21-24 under the same statutory provision. Applicants respectfully submit that the combination of references relied upon by the Examiner to reject the presently pending claims is inappropriate and must be withdrawn.

A. The pending claims herein are substantively unobvious over the combination of applied references.

Pending independent claim 16 herein is directed toward a colored suture that consists of:

- multi-filamentary yarn consisting of at least 50 mass% gel-spun filaments and
- at most 10 mass% of other components, wherein

the gel-spun filaments consist of:

- ultra-high molecular weight polyethylene (UHMwPE) having an intrinsic viscosity (IV) of between about 8 and 40 dl/g,

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- between 0.1 and 7.0 wt.% of an inorganic pigment containing chromium oxide,
- a residual amount of less than about 800 ppm of a spin solvent, and
- less than 1000 ppm of further constituents.

The Examiner's rejections under 35 USC §103(a) appears to be based on the rationale that one of ordinary skill in this art would "obviously" substitute the aluminum-chromium-cobalt oxide pigment as disclosed by Kuhn as a "colorant" in the filaments of Dirks et al, notwithstanding the fact that Kuhn is concerned with silicone rubber compositions and not to gel-spun filaments. Amery et al is apparently being combined with Dirks et al and Kuhn merely for its disclosure of residual spin solvent contents of less than 500 ppm. As will be discussed in greater detail below, the applicants submit that the rationale to combine the applied references of record is inapposite to the proper reviewing standards under 35 USC §103(a).

Dirks et al describes a process of making a monofilament-like product from multifilament UHMwPE yarn by thermally fusing filaments by exposure to elevated temperature while stretching and compressing the yarn. The obtained monofilament-like product is especially suited for use as fishing line, but also other uses like a surgical suture are mentioned in paragraphs [0037] and [0039].

Although Dirks et al is thus concerned with making a monofilament-like product from UHMWPE yarn as precursor material, it also mentions in general terms that such a UHMWPE yarn could also be used in the form of a suture. More specifically, Dirks mentions that such a yarn can be based on UHMwPE having a IV of 5-40 dl/g, and that spin solvent can be removed from the yarn by evaporation and/or extraction; see paragraph [0013]. Dirks et al does not provide any details on the methods or spin solvent levels. In paragraph [0032] and in the experimental section of the publication, Dirks et al indicates that it is preferable to add a non-volatile solvent – including paraffin

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that can be used as spin solvent - to the yarn before fusing. Dirks et al also mention that for medical applications only low or no amount of solvent is to be present.

Regarding *colored* sutures, Dirks et al indicates that:

- the natural white color may be adjusted by addition of colorants (see paragraph [0015]);
- UHMwPE yarn may contain less than 5 or preferably less than 3 mass% of customary additives like anti-oxidants, spin-finishes, thermal stabilizers and colorants (see paragraphs [0026] and [0037]);
- Oil or solvent added to the yarn as a pre-treatment step in the fusing process may contain colorants (see paragraph [0032]); and
- A coating composition can be applied to the fused yarn, which coating may comprise colorants (see paragraph [0033]).

Therefore, at least three different routes to making a colored suture comprising UHMWPE yarn are mentioned in only general terms by Dirks et al.

Significantly, Dirks et al does not disclose:

- Residual amount of spin solvent of less than 800 ppm;
- Amount of further constituents of less than 1000 ppm; and/or
- Presence of an inorganic pigment containing chromium oxide in an amount of between 0.1 and 7.0 wt.% in the UHMWPE filaments.

The features identified immediately above are of course presently defined by pending independent claim 16 herein.

One problem that is solved by the differences between independent claim 16 herein and the yarn proposed by Dirks et al is the provision of a suture containing

colored UHMwPE filaments from which colorant does not leach and which filaments have mechanical properties, such as tensile strength, that do not deteriorate due to the presence of the colorant. This problem is indeed solved by the suture of the presently pending claims as is evidenced by the examples I-IV and comparative experiments provided in the originally filed application showing that the selected pigment class *does not leach* from the yarn and its amount does not seriously adverse tensile properties.

Dirks et al indicates that for use in medical devices and implants the product preferably consists essentially of UHMWPE and only contains minor amounts of other components (see paragraph [0037]).

Dirks et al, however, does not suggest making a colored product by using a UHMWPE yarn having filaments that contain the specific inorganic pigment in amounts as defined by claim 16. Instead, Dirks et al indicates that a colored suture can be made using different approaches, including using colored yarn, but also by adding a colored oil or solvent or by applying a colored coating later in the process of making a fused product. Dirks et al additionally is completely silent on choice of colorant (organic vs inorganic; dye vs pigment), effects of colorant on mechanical properties of the suture, as well as on leaching behaviour of a colorant.

The Dirks et al reference therefore does not disclose or suggest a colored suture as defined by pending independent claim 16 herein.

The secondary reference to Kuhn fails to cure the deficiencies of Dirks et al as discussed above. In this regard, Kuhn relates to curable silicone rubber compositions for high-voltage insulators -- a technical field that is disparately remote from that of the presently claimed invention. Also the problem addressed by Kuhn – i.e., improving storage stability and processing characteristics of such silicone compositions -- is completely irrelevant to the problem confronting present applicants.

As such, an ordinarily skilled person would not have had any reasonable expectation of success by modifying the yarns of Dirks et al and employing teachings of Kuhn with respect to making a colored suture.

It is of course axiomatic that the applied prior art must suggest the desirability of the modification. Indeed, the Examiner has pointed out elements that are nakedly disclosed in Dirks et al with regard to the claimed pigment, the difference between Dirks and the claims at issue, and that such difference can allegedly be overcome by merely by picking a missing element from Kuhn so that the combination of Dirks et al and Kuhn achieve the claimed invention when further combined with routine skill in the art.

However, it appears that there is no indication on the record as to *why* Kuhn is pertinent prior art to begin with and what the level of ordinary skill in the pertinent prior art would be (i.e., the factors required by the Graham decision of determining the scope and content of the prior art and resolving the level of ordinary skill in the pertinent prior art[1]).

In addition, the Examiner did not substantiate *why* the ordinarily skilled person would be motivated to combine Kuhn with Dirks et al and to make the asserted modifications to arrive at the presently claimed invention. In the applicants' view therefore, the rejection advanced principally on the basis of Dirks et al and Kuhn is inappropriate and in contradiction with established case law.

The Graham decision of course has been extensively discussed in the more recent case KSR Int'l. Co. v. Teleflex Inc. et al, 550 U.S. 398 (2007) (hereinafter "KSR"). There the Court noted that:

> "Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the

[1] *Graham v. John Deere Co.,* 382 U.S. 1,148 USPO 456 (1966).

> background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit." [2]

After conducting a proper analysis of the prior art, applicants suggest that the inevitable conclusion to be reached is that the presently claimed invention is statutorily *un*obvious.

In this regard, as noted above, Kuhn concerns improving storage stability and processing characteristics of curable silicone rubber compositions for high-voltage insulators. In contrast, the presently claimed invention is directed to a colored suture formed of multi-filament yarn consisting of at least 50 mass% of gel-spun filaments of UHMWPE, an inorganic chromium-containing oxide, and a low residual spin solvent. An ordinarily skilled person would thus recognize that the problems associated with the incorporation of an inorganic pigment into a gel-spun fiber for use as a *surgical suture* is clearly different as compared to improving storage stability of a colored curable silicone composition. Therefore Kuhn and the presently claimed invention relate to different art areas and clearly disparate problems. As such, Kuhn is not pertinent prior art to the presently claimed invention (i.e., is not part of the "scope and content" of the prior art mandated by an analysis according to the Graham decision).

Even assuming for the sake of argument that Kuhn is considered to be pertinent (which applicants respectfully refute), the level of ordinary skill is that of preparation of pigment-colored gel-spun filaments – *not* of silicone compositions for use in high-voltage insulators.

---

[2] *KSR* at 418 *citing In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness").

There is no indication in Kuhn that the therein disclosed pigments would or could be employed in *gel-spun UHMWPE filaments*. Kuhn discloses silicone rubber compositions containing aluminum hydroxide (ATH) as *filler* material, and Kuhn is predominantly concerned with addressing the problems related to use of (surface-treated) ATH in curable multi-component silicone compositions. The main teaching of Kuhn is to add a further compound to the curable composition that liberates a base or acid upon heating; see e.g. paragraphs [0026-42], [0096]. It is merely mentioned in Kuhn that the compositions can comprise further constituents like pigments, and a long list of exemplary compounds included "aluminum-chromium-cobalt spinels" in paragraph [0111], but no further information on amount to be used or effect on properties is provided by Kuhn.

The Kuhn publication thus merely confirms that aluminum-chromium-cobalt pigments were known materials at the time of the herein claimed invention. Applicants certainly do not dispute that aluminum-chromium-cobalt pigments were known as such. However, the present applicants are not claiming to be the first inventors of aluminum-chromium-cobalt pigments per se. Thus, the general knowledge in the art that aluminum-chromium-cobalt compounds may be employed as pigments generally would not have provided any suggestion at all that such pigment would be suitable for and offer specific advantages in making colored UHMwPE multifilament yarn for use in a suture as is claimed herein.

Thus Kuhn is not pertinent prior art and would not have prompted a person ordinarily skilled in the relevant art to combine Kuhn with Dirks et al in such way to arrive at the presently claimed invention.

What is required by an analysis under 35 USC §103(a) is thus more than merely "cherry picking" words or phrases from one prior art reference and combining it with another. As the Supreme Court also observed in KSR:

> "…*a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was,*

> *independently, known in the prior art*. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known."

Thus, when the prior art is analyzed properly according to the Graham standards of review it must be concluded that the presently claimed invention is in fact patentably unobvious. That is, the current record does not identify a reason that would have prompted a person of ordinary skill in the field relevant to the present invention to combine the elements in the manner claimed. The only conclusion therefore that can be drawn in the absence of such reasoning is that the rejection based principally on Dirks et al and Kuhn is based impermissibly on hindsight.[3]

The examiner further states in paragraph 3 of the subject Official Action that the specified amounts of inorganic pigment and residual spin solvent would be obvious to one having ordinary skill in the art. As motivation for using a yarn with low spin solvent content the examiner posits that "…since the more pure the material, UHMWPE, and the less of other constituent or other materials, the stronger the strength for the suture." In fact, this rationale advanced by the Examiner strongly supports the conclusion that a suture based on UHMwPE yarn with filaments that contain 0.1-7.0 wt.%, or preferably 0.3-5 .0 wt.% of inorganic pigment containing chromium oxide, which pigment particles do not deteriorate tensile properties and are not leached from the suture, indeed is a

[3] "The inventor's own path itself never leads to a conclusion of obviousness; that is hindsight. What matters is the path that the person of ordinary skill in the art would have followed, as evidenced by the pertinent prior art." *Otsuka Pharm. Co. v. Sandoz, Inc.*, 678 F.3d 1280, 1296 (Fed. Cir.2012) (emphasis added).

surprising and unexpected result, i.e., since one of ordinary skill in this art would strive for a "more pure" material so as to improve the "strength of the suture".

Amery et al relates to a braided suture made from UHMwPE filaments. Amery et al is completely silent on coloring UHMWPE yarn or making a colored suture, but merely confirms that the level of residual spin solvent, especially decalin, in gel-spun UHMWPE should be very low, and preferably below 100 ppm for biocompatibility reasons. As such, Amery et al does not render obvious the presently claimed invention even when combined with Dirks and Kuhn.

It thus must be concluded that it was not at all "obvious" for a person of ordinary skill in the art at the time of the invention to combine the disclosures and teachings of the applied references of record. Even if combined, however, the presently claimed invention would not have been the result. Therefore, the suture defined by independent claim 16 and the claims dependent therefrom are patentably unobvious over the applied prior art references of record.

Withdrawal of the rejections advanced under 35 USC §103(a) and early passage of this application to allowance are therefore solicited.

B. Dirks et al is disqualified as a reference against the pending claims pursuant to 35 USC §103(c).

Applicants further note that the Dirks et al publication is disqualified as a reference against the pending claims under 35 USC §103(c).

In this regard, the applicants note that the subject application is properly examined under the pre-AIA statutory requirements as noted in paragraph 1 on page 2 of the subject Official Action. The subject application is of course the US national phase application of PCT/EP2008/004135 filed on May 23, 2008 and as such is accorded such filing date as an effective filing date in the US for the purposes of 35 USC §102(e) (i.e., since the International application was published in the English language and designated the US).

Dirks et al published on January 8, 2009 – i.e., after the effective US filing date of the subject application on May 23, 2008. Therefore, Dirks et al does not qualify as prior art under 35 USC §§102(a), (b), (c) or (d). Instead, Dirks et al qualifies as prior art *only* under 35 USC §102(e) based on the earlier filing date of PCT/EP05/11172.

Both Dirks et al and the subject application are owned by the same entity, namely DSM IP Assets, B.V. as evidenced by the assignment recorded at Reel 023783/Frame 0563 for the subject application and the assignment recorded at Reel 020561/Frame 0565 for Dirks et al and as affirmed in the statement below:

> Statement of Common Ownership: The above-identified subject application and Dirks et al (US 2009/0012251) were, at the time the invention of the above-identified subject application made, commonly owned by DSM IP Assets, B.V.

Under these circumstances, therefore, Dirks et al is disqualified as a reference against the pending claims herein under 35 USC §103(c).

2. Conclusions

Applicants submit that all issues advanced in the Official Action dated April 15, 2015 have been resolved. As such, early receipt of the Official Allowance Notice is solicited.

3. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed

herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: /Bryan H. Davidson/
Bryan H. Davidson
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Electronic Acknowledgement Receipt

EFS ID:	22931104
Application Number:	12599869
International Application Number:	
Confirmation Number:	3921
Title of Invention:	COLORED SUTURE
First Named Inventor/Applicant Name:	Joseph Arnold Paul Maria J.A.P.M Simmelink
Customer Number:	23117
Filer:	Bryan H. Davidson/Dawn Barbour
Filer Authorized By:	Bryan H. Davidson
Attorney Docket Number:	BHD-4662-1326
Receipt Date:	15-JUL-2015
Filing Date:	14-JAN-2010
Time Stamp:	19:36:54
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		07-15-2015_AMD_IV.pdf	73615 29ab2c2909af27c15bcf02f22f0c59a2573ff40f	yes	12

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Response After Final Action	1	1
	Applicant Arguments/Remarks Made in an Amendment	2	12
Warnings:			
Information:			
	Total Files Size (in bytes):	73615	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	12/599,869		
Filing Date	01/14/2010		
First Named Inventor	SIMMELINK, Joseph A.		
Group Art Unit	3773	*Conf. No.*	3921
Examiner Name	DANG, Phong Son H.		
Attorney Docket Number	BHD-4662-1326		

This is a Request for Continued Examination (RCE) under 37 C.F.R. §1.114 of the above-identified application.
Request for continued Examination (RCE) practice under 37 C.F.R. § 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO).

1. Submission required under 37 C.F.R. § 1.114.
   - a. ☒ Previously submitted (Note: Any previously filed unentered amendments will be entered unless applicant instructs otherwise. If applicant does not wish to have previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).
     - i. ☒ Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on July 15, 2015
     - ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
     - iii. ☐ Other _____
   - b. ☐ Enclosed
     - i. ☐ Amendment/Reply
     - ii. ☐ Affidavit(s)/Declaration(s)
     - iii. ☐ Information Disclosure Statement (IDS)
     - iv. ☐ Other _____
2. Miscellaneous
   - a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(i) **required**)
   - b. ☐ Other _____
3. Fees The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when the RCE is filed.
   - a. ☐ Applicant claims "small entity" status.
     ☐ Applicant claims "micro entity" status. ☐ Micro entity certification statement filed herewith.
   - b. ☒ Fees are attached as calculated below:

i. ☐	RCE fee required under 37 C.F.R. § 1.17(e)(1)	$1200.00 (1801)/$600.00 (2801)/$300.00 (3801)	$
☒	RCE fee required under 37 C.F.R. § 1.17(e)(2)	$1700.00 (1820)/$850.00 (2820)/$425.00 (3820)	$ 1700.00
ii. ☒	Petition is made to extend the due date 3 months (less	months previously paid)	$ 1400.00
iii. ☐	Other		$

   - c. ☒ **CREDIT CARD OR DEPOSIT ACCOUNT PAYMENT (CREDIT CARD FORM ATTACHED IF PAPER FILING) in the amount of $3100.00**
   - d. ☒ The Director is hereby authorized to charge any deficiency in the fee(s) filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm), to Deposit Account No. 14-1140.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print Type)	Bryan H. Davidson	*Registration No. (Attorney/Agent)*	30,251
Signature	/Bryan H. Davidson/	*Date*	October 15, 2015

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office on:

Name (Print Type)			
Signature		*Date*	

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Patent Application Fee Transmittal

Application Number:	12599869
Filing Date:	14-Jan-2010
Title of Invention:	COLORED SUTURE
First Named Inventor/Applicant Name:	Joseph Arnold Paul Maria J.A.P.M Simmelink
Filer:	Bryan H. Davidson/Dawn Barbour
Attorney Docket Number:	BHD-4662-1326

Filed as Large Entity

Filing Fees for U.S. National Stage under 35 USC 371

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	1253	1	1400	1400
Miscellaneous:				
RCE- 2nd and Subsequent Request	1820	1	1700	1700
		Total in USD ($)		**3100**

Electronic Acknowledgement Receipt	
EFS ID:	23797361
Application Number:	12599869
International Application Number:	
Confirmation Number:	3921
Title of Invention:	COLORED SUTURE
First Named Inventor/Applicant Name:	Joseph Arnold Paul Maria J.A.P.M Simmelink
Customer Number:	23117
Filer:	Bryan H. Davidson/Dawn Barbour
Filer Authorized By:	Bryan H. Davidson
Attorney Docket Number:	BHD-4662-1326
Receipt Date:	15-OCT-2015
Filing Date:	14-JAN-2010
Time Stamp:	16:20:59
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$3100
RAM confirmation Number	3015
Deposit Account	141140
Authorized User	DAVIDSON, BRYAN H.
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	10-15-2015_RCE_Transmittal.pdf	33058 3816bc2199f6a0e1234d9d1ad18ef8ed3a0d0baa	no	1
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32515 306d2b653dc7064c52ad400527b1d38c74b5088b	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	65573		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/599,869	01/14/2010	Joseph Arnold Paul Maria J.A.P.M Simmelink	BHD-4662-1326	3921

23117 7590 10/23/2015

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
DANG, PHONG SON H	

ART UNIT	PAPER NUMBER
3773	

NOTIFICATION DATE	DELIVERY MODE
10/23/2015	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOMAIL@nixonvan.com
pair_nixon@firsttofile.com

Office Action Summary	Application No. 12/599,869	Applicant(s) SIMMELINK ET AL.	
	Examiner SON DANG	Art Unit 3773	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07/15/2015*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *16-18 and 20-31* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *16-18 and 20-31* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. However, a new rejection is cited below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 16-18 and 20-31 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over WO 2005/066401 A1 to Simmelink in view of US 2008/0027534 to Edwin et al. (Edwin).

Simmelink teaches:

> Process for making high-performance polyethylene multi-filament yarn, at least 50 mass% of the yarn consist of gel-spun filaments consisting of ultra-high molecular weight polyethylene (page 8, lines 28-33), having an intrinsic viscosity (IV) of between about 8 and 40 dl/g (page 1, lines 6-10), less than 3% of customary additives (page 8, lines 28-33) and a residual less than 50 ppm of solvents (page 12, lines 1-12).