

1	Request for Continued Examination (RCE)	RCE.pdf	142113 aa8078ce930051d27db79454dc0a60510d56ecd	no	1
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2	Extension of Time	ext.pdf	46536 c81ed69fabbed5ed2a01beb68d15c9da49c70a2f	no	1
Warnings:					
Information:					
3		response.pdf	73330 da71f4105b3930aaafba54c6296413efa5c965e0	yes	8
Multipart Description/PDF files in .zip description					
Document Description		Start	End		
Amendment Submitted/Entered with Filing of CPA/RCE		1	1		
Claims		2	6		
Applicant Arguments/Remarks Made in an Amendment		7	8		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	31785 3bd01aaea88d4506b3ff9099b6bc9e96d0614384	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			293764		

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.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/271,884	Filing Date 10/12/2011	<input type="checkbox"/> To be Mailed
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APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	SMALL ENTITY <input type="checkbox"/>		OR	SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(j))</small>	minus 20 =	*	X \$ =		OR	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =			X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY		OR	SMALL ENTITY	
AMENDMENT	11/30/2012	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	* 30	Minus	** 30	=	0	OR	X \$62=	0
	Independent <small>(37 CFR 1.16(h))</small>	* 4	Minus	***4	=	0	OR	X \$250=	0
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>									
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY		OR	SMALL ENTITY	
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)	
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=		OR	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=		OR	X \$ =	
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>									
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
 /RENEE COLLINS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
 If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.			
	Filing Date October 12, 2011		Group Art Unit 3673	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1	2005/0132754	06-2005	Taniguchi et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	2	Transaction history from PAIR of U.S. application no. 13/271,884 as of May 31, 2012.
	3	Transaction history from PAIR of U.S. application no. 13/272,977 as of May 31, 2012.

Examiner Signature	Date Considered
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EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Electronic Patent Application Fee Transmittal

Application Number:	13271884			
Filing Date:	12-Oct-2011			
Title of Invention:	Fabric System			
First Named Inventor/Applicant Name:	Susan Walvius			
Filer:	Frank L. Gerratana/jennifer franco			
Attorney Docket Number:	29712-0002002			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
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(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	12909545
Application Number:	13271884
International Application Number:	
Confirmation Number:	4645
Title of Invention:	Fabric System
First Named Inventor/Applicant Name:	Susan Walvius
Customer Number:	26161
Filer:	Frank L. Gerratana/jennifer franco
Filer Authorized By:	Frank L. Gerratana
Attorney Docket Number:	29712-0002002
Receipt Date:	01-JUN-2012
Filing Date:	12-OCT-2011
Time Stamp:	09:25:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$180
RAM confirmation Number	8202
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
		000107			

1		2002_IDS.pdf	128689 580adef3a8d8e8672f4999c3ac43cd25edd7a815	yes	3
Multipart Description/PDF files in .zip description					
		Document Description	Start	End	
		Transmittal Letter	1	2	
		Information Disclosure Statement (IDS) Form (SB08)	3	3	
Warnings:					
Information:					
2	Non Patent Literature	2001_TH_5_31_12.pdf	80258 bf15235745e6613cc363ab3cb69368f6cc586138	no	2
Warnings:					
Information:					
3	Non Patent Literature	2003_TH_5_31_12.pdf	78479 f9df1ec42da4190b2c77daa4b34b648e1e2fb5fc	no	2
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	29748 d9325cecbb59d021a16e1af6a1e0eac2bf1cd09	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			317174		
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Susan Walvius et al.	Art Unit :	3673
Serial No. :	13/271,884	Examiner :	Nicholas F. Polito
Filed :	October 12, 2011	Conf. No. :	4645
Title :	FABRIC SYSTEM		

MAIL STOP AMENDMENT

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

INFORMATION DISCLOSURE STATEMENT

Please consider the reference listed on the attached PTO-1449 form.

Copies of United States patent documents will be provided upon request. Copies of all non-U.S. patent documents and other documents are enclosed.

The United States patent applications and/or patents listed below contain material related to material in this application. Copies of the applications and/or patents, their current claims (in the case of patents), and their transaction histories from the patent office public PAIR website are enclosed (or were provided previously with information disclosure statements identified in the table).

The applicant invites the examiner to consider the claims and claim amendments of these other applications and/or patents, and the positions of the examiners and the applicant that appear in their prosecution histories. The applicant understands that the examiner has direct access to these papers at the patent office, but will be happy to provide copies to the examiner upon request.

Applicant : Susan Walvius et al.
Serial No. : 13/271,884
Filed : October 12, 2011
Page : 2 of 2

Attorney's Docket No.: 29712-0002002

US serial number and filing date/ status	Examiner and group art unit	Is patent or application attached and listed on form 1449 and/or what is the date of a prior information disclosure statement with which it was submitted	In the case of an application, are claims attached or what is the date of a prior information disclosure statement with which they were submitted	Is current PAIR transaction history attached and listed on form 1449
61/101,049 09/29/2008 Expired	N/A	No	No	No
12/569,659 09/29/2009 Pending	Nicholas F. Polito GAU 3673	No - publication 2011/0000020 submitted 2/16/12	No – submitted 4/11/12	Yes
13/272,977 10/13/2011 Pending	Nicholas F. Polito GAU 3673	No - publication 2012/0030874 submitted 2/16/12	No – submitted 4/11/12	Yes

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. The fees in the amount of \$180 in payment of the late submission fee of §1.17(p) are being paid concurrently herewith. In addition, please apply any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: June 1, 2012 _____

/Frank L. Gerratana/ _____
Frank L. Gerratana
Reg. No. 62,653

Customer Number 26161
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

22854274.doc

000110

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.		
	Filing Date October 12, 2011	Group Art Unit 3673	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	1	Response to European Communication mailed March 12, 2012 from European application no. 09817024.4, filed April 25, 2012 (12 pages).

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Electronic Acknowledgement Receipt

EFS ID:	12910664
Application Number:	13271884
International Application Number:	
Confirmation Number:	4645
Title of Invention:	Fabric System
First Named Inventor/Applicant Name:	Susan Walvius
Customer Number:	26161
Filer:	Frank L. Gerratana/jennifer franco
Filer Authorized By:	Frank L. Gerratana
Attorney Docket Number:	29712-0002002
Receipt Date:	01-JUN-2012
Filing Date:	12-OCT-2011
Time Stamp:	11:12:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	2002_1449.pdf	65737 <small>03d65b47e8be4d41bb41e40d82d2ae974fb9e669</small>	no	1

Warnings:

Information:

000112

This is not an USPTO supplied IDS fillable form

2	Non Patent Literature	2EP1_RCOMM_4_25_12.pdf	235775	no	12
			1273a6b53058cb5e3f6ea836a1c4c1019dd e8d2a		

Warnings:

Information:

Total Files Size (in bytes): 301512

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

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New International Application Filed with the USPTO as a Receiving Office

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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.
13/271,884	10/12/2011	Susan Walvius	29712-0002002	4645
26161	7590	05/30/2012	EXAMINER	
FISH & RICHARDSON P.C. (BO)			POLITO, NICHOLAS F	
P.O. BOX 1022			ART UNIT	PAPER NUMBER
MINNEAPOLIS, MN 55440-1022			3673	
			NOTIFICATION DATE	DELIVERY MODE
			05/30/2012	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):

PATDOCTC@fr.com

Office Action Summary

Application No. 13/271,884	Applicant(s) WALVIUS ET AL.	
Examiner Nicholas Polito	Art Unit 3673	

-- 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 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 06 April 2012.
- 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) 14-43 is/are pending in the application.
5a) Of the above claim(s) 14-24 is/are withdrawn from consideration.
- 6) Claim(s) _____ is/are allowed.
- 7) Claim(s) 25-42 is/are rejected.
- 8) Claim(s) 43 is/are objected to.
- 9) Claim(s) _____ are subject to restriction and/or election requirement.

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).
- 12) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
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) Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 25-43 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 28 of copending Application No. 12/569,659 and claims 15-25, 28-37 and 41. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are drawn to the same subject matter but written separately as method and apparatus claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 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 negated by the manner in which the invention was made.

4. Claims 25-29 and 31-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al. (U.S. Patent No. 6,823,548) in view of Taniguchi et al. (U.S. Pub. No. 2005/0132754).

5. Regarding claim 25, Murphy et al. teach in Figures 1-3 a finished fabric comprising: a first circular knitted fabric portion (22); and a second circular knitted fabric portion (24), at least one of the circular knitted fabric portions comprising a circular

Art Unit: 3673

knitted performance fabric portion (Table 1, Ex. No. 1.3); wherein the first and second fabric portions are discrete; and wherein the first and second fabric portions are joined (col. 6, lines 41-48) to form the finished fabric.

Murphy et al. do not teach wherein the finished fabric is at least 90 inches wide. Murphy et al. teach column 3, lines 42 to 45 wherein the finished fabric is for a mattress. The examiner takes official notice that it is commonly known in the art for a standard size mattress cover to be at least 90 inches wide. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to make the finished fabric of Murphy et al. at least 90 inches wide to cover a standard mattress.

Murphy et al. do not teach wherein the circular knitted performance fabric portion is knitted at a high gauge. Taniguchi et al. teach in paragraphs 21, 22 and 35 a circular knitted performance fabric portion knitted at a high gauge. In view of Taniguchi et al., it would have been obvious to a person having ordinary skill in the art at the time the invention was made to knit the fabric of Murphy et al. at a high gauge as in Taniguchi et al. to increase softness, elasticity and flexibility.

6. Regarding claim 26, Murphy et al. teach the finished fabric of claim 25. Murphy et al. do not teach piping. The examiner takes official notice that it is commonly known in the art to provide piping to a fabric. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide piping to the bed fabric of Murphy et al. to provide a finished edge.

Art Unit: 3673

7. Regarding claim 27, Murphy et al. teach in column 5, lines 20 to 29 the finished fabric of claim 25, wherein the first and second fabrics have different fabric characteristics.
8. Regarding claim 28, Murphy et al. teach in column 5, lines 46 to 67 the finished fabric of claim 27, wherein at least one of the fabric characteristics comprises moisture management.
9. Regarding claim 29, Murphy et al. teach in column 5, lines 46 to 67 the finished fabric of claim 27, wherein at least one of the fabric characteristics comprises UV protection.
10. Regarding claim 31, Murphy et al. teach in column 5, lines 46 to 67 the finished fabric of claim 27, wherein at least one of the fabric characteristics comprises thermo-regulation.
11. Regarding claim 32, Murphy et al. teach in column 5, lines 46 to 67 the finished fabric of claim 27, wherein at least one of the fabric characteristics comprises wind resistance.
12. Regarding claim 33, Murphy et al. teach in column 5, lines 46 to 67 the finished fabric of claim 27, wherein at least one of the fabric characteristics comprises water resistance.
13. Regarding claim 34, Murphy et al. teach in column 5, lines 46 to 67 the finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher breathability than a cotton fabric.

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14. Regarding claim 35, Murphy et al. teach in column 5, lines 46 to 67 the finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher heat transfer than a cotton fabric.

15. Regarding claim 36, Murphy et al. teach in column 5, lines 46 to 67 the finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher moisture wicking characteristics than a cotton fabric.

16. Regarding claim 37, Taniguchi et al. teach in paragraph 21 the finished fabric of claim 25, having a gauge of at least 17 gauges.

17. Regarding claim 38, Murphy et al. teach in column 3, lines 43 to 61 the finished fabric of claim 25, comprising a bed sheet.

18. Regarding claim 39, Murphy et al. teach in column 3, lines 43 to 61 the finished fabric of claim 25, comprising a bed covered by the bed sheet.

19. Regarding claim 40, Murphy et al. teach in column 3, lines 43 to 61, column 5, lines 46 to 64 and Table 1, Ex. No. 1.3 the finished fabric of claim 25, wherein the bed sheet is sufficiently stretchable to fit a standard rectangular bed and a smaller, non-rectangular marine bed.

20. Regarding claim 41, Murphy et al. teach in column 3, lines 43 to 61, column 5, lines 46 to 64 and Table 1, Ex. No. 1.3 the finished fabric of claim 25, wherein the bed sheet is sufficiently stretchable to fit either a crib or a standard adult bed.

21. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al. in view of Porter et al. (U.S. Patent No. 4,690,859).

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22. Regarding claim 30, Murphy et al. teach the finished fabric of claim 27. Murphy et al. do not teach wherein at least one of the fabric characteristics comprises anti-microbial properties. Porter et al. teach in column 4, lines 4 to 14 a finished fabric comprising anti-microbial properties. In view of Porter et al., it would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the anti-microbial properties of Porter et al. with the finished fabric of Murphy et al. to prevent the growth of microorganisms.

23. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al. in view of Link et al. (U.S. Pub. No. 2007/0283493).

24. Regarding claim 42, Murphy et al. teach the finished fabric of claim 25. Murphy et al. do not teach a knit fabric that includes polyurethanepolyurea copolymer fiber. Link et al. teach in paragraph 28 a knit fabric that includes polyurethanepolyurea copolymer fiber. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use polyurethanepolyurea copolymer fiber, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331.

Allowable Subject Matter

25. Claim 43 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

26. The following is a statement of reasons for the indication of allowable subject matter: Murphy et al. and Link et al., taken either alone or in combination, do not teach "polyurethanepolyurea copolymer fiber is included in the knit fabric in a proportion that, if circularly knit at a high gauge, the knit fabric could be knit at no more than a 72.5 inch circumference without losing integrity of the polyurethanepolyurea copolymer fiber."

Response to Arguments

27. Applicant's arguments filed 4/6/2012 have been fully considered but they are not persuasive.

28. In response to applicant's arguments that Murphy et al. do not teach a fabric being knit at a high gauge, the combination of Murphy et al. in view of Taniguchi et al. teach a fabric being knit at a high gauge.

Conclusion

29. 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

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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 Nicholas Polito whose telephone number is (571)270-5923. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on (571) 272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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.

/Nicholas Polito/
Examiner, Art Unit 3673

/ROBERT G. SANTOS/
Primary Examiner, Art Unit 3673

5/22/2012

Notice of References Cited	Application/Control No. 13/271,884	Applicant(s)/Patent Under Reexamination WALVIUS ET AL.	
	Examiner Nicholas Polito	Art Unit 3673	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2005/0132754	06-2005	Taniguchi et al.	066/202
	B US-			
	C US-			
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			

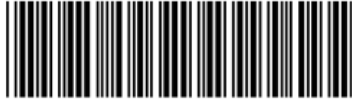
FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
	U				
	V				
	W				
	X				

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims 	Application/Control No. 13271884	Applicant(s)/Patent Under Reexamination WALVIUS ET AL.
	Examiner NICHOLAS POLITO	Art Unit 3673

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	11/09/2011	12/21/2011	05/22/2012					
	1	-	-	-					
	2	-	-	-					
	3	-	-	-					
	4	-	-	-					
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	35	÷	✓	✓					
	36	÷	✓	✓					

<i>Index of Claims</i> 	Application/Control No. 13271884	Applicant(s)/Patent Under Reexamination WALVIUS ET AL.
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Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	11/09/2011	12/21/2011	05/22/2012					
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	38	÷	✓	✓					
	39	÷	✓	✓					
	40	÷	✓	✓					
	41	÷	✓	✓					
	42	÷	✓	✓					
	43	÷	○	○					

Search Notes 	Application/Control No. 13271884	Applicant(s)/Patent Under Reexamination WALVIUS ET AL.
	Examiner NICHOLAS POLITO	Art Unit 3673

SEARCHED			
Class	Subclass	Date	Examiner
5	482 - 484, 486, 499 - 502	12/21/2011	NP
	Above Search Updated	5/22/2012	NP

SEARCH NOTES		
Search Notes	Date	Examiner
EAST Search History Attached	12/21/2011	NP
EAST Search History Attached	5/22/2012	NP

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/NICHOLAS POLITO/ Examiner.Art Unit 3673	
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Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.			
	Filing Date October 12, 2011		Group Art Unit 3673	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	1	Response to Office Action dated January 16, 2012 from Canadian Application No. 2738658, filed April 16, 2012 (25 pages).
	2	Voluntary Amendment filed in Australian Application No. 2009296195 filed April 24, 2012 (12 pages).
	3	Copy of Publication Notice of Hong Kong Application No. 11108432.6 dated April 25, 2012 (1 page).

Examiner Signature /Nicholas Polito/	Date Considered 05/22/2012
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EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.		
	Filing Date October 12, 2011		Group Art Unit 3673

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1	2,804,632	09-1957	Jesse Ford Alexander			
	2	2011/0000020	01-2011	Walvius et. al.			
	3	2012/0030874	02-2012	Walvius et. al.			
	4	4,648,186	03-1987	Dolman et al.			
	5	5,092,088	03-1992	Way			
	6	5,636,380	06-1997	Schindler et al.			
	7	7,117,695	10-2006	Laycock et al.			
	8	2008/0028523	02-2008	Robertson et al.			
	9	2007/0266495	11-2007	Stribling			
	10	2004/0172754	09-2004	Brooks et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	11	CN102245822A	11/16/2011	China			X	
	12	JP 11-309183	11/9/1999	Japan			X	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	13	Canadian office action issued January 16, 2012 in Canadian application no. 2,738,658 (4 pages).
	14	European communication mailed May 27, 2011 from European application no. 09817024.4 (2 pages).
	15	Response to European communication mailed May 27, 2011 from European application no. 09817024.4 filed November 22, 2011 (12 pages).
	16	Pending claims of U.S. application no. 12/569,659 as of February 15, 2012.
	17	Pending claims of U.S. application no. 13/272,977 as of February 15, 2012.
	18	Transaction history from PAIR of U.S. application no. 12/569,659 as of February 15, 2012.
	19	Transaction history from PAIR of U.S. application no. 13/272,977 as of February 15, 2012.
	20	International Preliminary Report on Patentability from PCT application no. PCT/US2009/058716 mailed April 7, 2011 (6 pages).
	21	International Search Report from PCT application no. PCT/US2009/058716 mailed April 29, 2010 (3 pages).

Examiner Signature /Nicholas Polito/	Date Considered 05/22/2012
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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	Applicant Susan Walvius et al.			
	Filing Date October 12, 2011	Group Art Unit 3673		

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	22	Written Opinion from PCT application no. PCT/US2009/058716 mailed April 29, 2010 (4 pages).
	23	European Communication mailed February 16, 2012 from European application no. 09817024.4 (4 pages).

Examiner Signature /Nicholas Polito/	Date Considered 05/22/2012
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	Applicant Susan Walvius et al.		
	Filing Date October 12, 2011	Group Art Unit 3673	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate

Foreign Patent Documents or Published Foreign Patent Applications								
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Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	1	European Communication mailed March 12, 2012 from European application no. 09817024.4 (5 pages).
	2	Pending claims of U.S. application no. 12/569,659 as of April 10, 2012.
	3	Pending claims of U.S. application no. 13/272,977 as of April 10, 2012.
	4	Transaction history from PAIR of U.S. application no. 12/569,659 as of April 10, 2012.
	5	Transaction history from PAIR of U.S. application no. 13/272,977 as of April 10, 2012.

Examiner Signature /Nicholas Polito/	Date Considered 05/22/2012
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EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EAST Search History

EAST Search History (Prior Art)

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S4	18	((circle or circular) adj knit) same stitch same (heat adj set)	US-PGPUB; USPAT; USOCR	OR	ON	2011/12/19 16:52
S5	3	"5"/.clas. and (((circle or circular) adj knit) and stitch and (heat adj set))	US-PGPUB; USPAT; USOCR	OR	ON	2011/12/19 16:57
S6	27828	bedding or (bed near sheet) or (mattress near cover\$3)	US-PGPUB; USPAT; USOCR	OR	ON	2011/12/20 14:21
S7	1867	((circle or circular) adj knit)	US-PGPUB; USPAT; USOCR	OR	ON	2011/12/20 14:21
S8	109	S6 and S7	US-PGPUB; USPAT; USOCR	OR	ON	2011/12/20 14:21
S9	24359	(heat-set\$4) or (heat adj set\$4)	US-PGPUB; USPAT; USOCR	OR	ON	2011/12/20 14:23
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S13	0	("2009/0044338").URPN.	USPAT	OR	OFF	2011/12/20 15:29

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S18	12	5/482-502.ccls. and ((circle or circular or round) near knit\$3)	US- PGPUB; USPAT; USOCR	OR	OFF	2011/12/20 15:46
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S20	8586	((circle or circular or round) near knit\$4)	US- PGPUB; USPAT; USOCR	OR	ON	2011/12/20 15:59
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S29	47	spandex with antimicrobial	US- PGPUB;	OR	ON	2011/12/21 17:34

			USPAT; USOCR			
S30	0	spandex with circumference with gauge	US- PGPUB; USPAT; USOCR	OR	ON	2011/12/21 17:38
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S38	4054	(circle or circular) near2 knit\$3	US- PGPUB; USPAT; USOCR	OR	ON	2012/05/21 16:28
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S40	574970	bed or mattress	US- PGPUB; USPAT; USOCR	OR	ON	2012/05/21 16:29

000134

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EAST Search History (Interference)

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Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.			
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	3	Transaction history from PAIR of U.S. application no. 13/272,977 as of May 23, 2012.

Examiner Signature	Date Considered
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EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Electronic Patent Application Fee Transmittal

Application Number:	13271884			
Filing Date:	12-Oct-2011			
Title of Invention:	Fabric System			
First Named Inventor/Applicant Name:	Susan Walvius			
Filer:	Frank L. Gerratana/jennifer franco			
Attorney Docket Number:	29712-0002002			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
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(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	12852989
Application Number:	13271884
International Application Number:	
Confirmation Number:	4645
Title of Invention:	Fabric System
First Named Inventor/Applicant Name:	Susan Walvius
Customer Number:	26161
Filer:	Frank L. Gerratana/jennifer franco
Filer Authorized By:	Frank L. Gerratana
Attorney Docket Number:	29712-0002002
Receipt Date:	24-MAY-2012
Filing Date:	12-OCT-2011
Time Stamp:	09:12:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$180
RAM confirmation Number	9723
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
		000139			

1		2002_IDS.pdf	129541	yes	3
			f0061c8fd1c917b13aeca76dc501f72bd35377b		
Multipart Description/PDF files in .zip description					
		Document Description	Start	End	
		Transmittal Letter	1	2	
		Information Disclosure Statement (IDS) Form (SB08)	3	3	
Warnings:					
Information:					
2	Non Patent Literature	2EP1_COM_5_9_12.pdf	173844	no	4
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Warnings:					
Information:					
3	Non Patent Literature	2001_TH_5_23_12.pdf	80069	no	2
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Warnings:					
Information:					
4	Non Patent Literature	2003_TH_5_23_12.pdf	78141	no	2
			7a5d34f047f058f280794105d235e895308d968d		
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	29747	no	2
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Warnings:					
Information:					
Total Files Size (in bytes):			491342		

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Susan Walvius et al.	Art Unit :	3673
Serial No. :	13/271,884	Examiner :	Nicholas F. Polito
Filed :	October 12, 2011	Conf. No. :	4645
Title :	FABRIC SYSTEM		

MAIL STOP AMENDMENT

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

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the attached PTO-1449 form.

Copies of United States patent documents will be provided upon request. Copies of all non-U.S. patent documents and other documents are enclosed.

The United States patent applications and/or patents listed below contain material related to material in this application. Copies of the applications and/or patents, their current claims (in the case of patents), and their transaction histories from the patent office public PAIR website are enclosed (or were provided previously with information disclosure statements identified in the table).

The applicant invites the examiner to consider the claims and claim amendments of these other applications and/or patents, and the positions of the examiners and the applicant that appear in their prosecution histories. The applicant understands that the examiner has direct access to these papers at the patent office, but will be happy to provide copies to the examiner upon request.

Applicant : Susan Walvius et al.
 Serial No. : 13/271,884
 Filed : October 12, 2011
 Page : 2 of 2

Attorney's Docket No.: 29712-0002002

US serial number and filing date/ status	Examiner and group art unit	Is patent or application attached and listed on form 1449 and/or what is the date of a prior information disclosure statement with which it was submitted	In the case of an application, are claims attached or what is the date of a prior information disclosure statement with which they were submitted	Is current PAIR transaction history attached and listed on form 1449
61/101,049 09/29/2008 Expired	N/A	No	No	No
12/569,659 09/29/2009 Pending	Nicholas F. Polito GAU 3673	No - publication 2011/0000020 submitted 2/16/12	No – submitted 4/11/12	Yes
13/272,977 10/13/2011 Pending	Nicholas F. Polito GAU 3673	No - publication 2012/0030874 submitted 2/16/12	No – submitted 4/11/12	Yes

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. The fees in the amount of \$180 in payment of the late submission fee of §1.17(p) are being paid concurrently herewith. In addition, please apply any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: May 24, 2012 _____

/Frank L. Gerratana/ _____
 Frank L. Gerratana
 Reg. No. 62,653

Customer Number 26161
 Fish & Richardson P.C.
 Telephone: (617) 542-5070
 Facsimile: (877) 769-7945

22849308.doc

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.			
	Filing Date October 12, 2011		Group Art Unit 3673	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	1	Response to Office Action dated January 16, 2012 from Canadian Application No. 2738658, filed April 16, 2012 (25 pages).
	2	Voluntary Amendment filed in Australian Application No. 2009296195 filed April 24, 2012 (12 pages).
	3	Copy of Publication Notice of Hong Kong Application No. 11108432.6 dated April 25, 2012 (1 page).

Examiner Signature	Date Considered
--------------------	-----------------

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Electronic Patent Application Fee Transmittal

Application Number:	13271884			
Filing Date:	12-Oct-2011			
Title of Invention:	Fabric System			
First Named Inventor/Applicant Name:	Susan Walvius			
Filer:	Frank L. Gerratana/jennifer franco			
Attorney Docket Number:	29712-0002002			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
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(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	12724756
Application Number:	13271884
International Application Number:	
Confirmation Number:	4645
Title of Invention:	Fabric System
First Named Inventor/Applicant Name:	Susan Walvius
Customer Number:	26161
Filer:	Frank L. Gerratana/jennifer franco
Filer Authorized By:	Frank L. Gerratana
Attorney Docket Number:	29712-0002002
Receipt Date:	08-MAY-2012
Filing Date:	12-OCT-2011
Time Stamp:	09:59:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$180
RAM confirmation Number	8132
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1		2002_IDS.pdf	124664 fe42f16cc7bdc840fccc192265ce01c5349fc70d	yes	2
Multipart Description/PDF files in .zip description					
		Document Description	Start	End	
		Transmittal Letter	1	1	
		Information Disclosure Statement (IDS) Form (SB08)	2	2	
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Information:					
2	Non Patent Literature	2CA1_ROA_4_16_12.pdf	2194285 927b4f8069702dfc9aed3cd4f31dfcfeb7f7e4bf	no	25
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Information:					
3	Non Patent Literature	AU2_VOL_AMDT_4_24_12.pdf	507238 ebe41f277334a8fbb9f7e7e4719595840699afe7	no	12
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Information:					
4	Non Patent Literature	2HK_publication_notice.pdf	60750 faed91a6b66ba48457b6f429387c963b10cc348f	no	1
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	29748 0e72397a2faa0d8b82529f8233fd0228c57d9fd	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			2916685		

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.

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New International Application Filed with the USPTO as a Receiving Office

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Susan Walvius et al.
Serial No. : 13/271,884
Filed : October 12, 2011
Title : FABRIC SYSTEM

Art Unit : 3673
Examiner : Nicholas F. Polito
Conf. No. : 4645

MAIL STOP AMENDMENT

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

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the enclosed PTO-1449 form. Non-patent literature is enclosed.

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. The fees in the amount of \$180 in payment of the late submission fee of §1.17(p) are being paid concurrently herewith. In addition, please apply any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: May 7, 2012 _____

/Frank L. Gerratana/ _____
Frank L. Gerratana
Reg. No. 62,653

Customer Number 26161
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

22839588.doc



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.
13/271,884	10/12/2011	Susan Walvius	29712-0002002	4645
26161	7590	04/12/2012	EXAMINER	
FISH & RICHARDSON P.C. (BO)			POLITO, NICHOLAS F	
P.O. BOX 1022			ART UNIT	PAPER NUMBER
MINNEAPOLIS, MN 55440-1022			3673	
			NOTIFICATION DATE	DELIVERY MODE
			04/12/2012	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):

PATDOCTC@fr.com

Applicant-Initiated Interview Summary	Application No. 13/271,884	Applicant(s) WALVIUS ET AL.	
	Examiner Nicholas Polito	Art Unit 3673	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Nicholas Polito. (3) Frank Gerratana.
(2) Robert Santos. (4) Susan Walvius.

Date of Interview: 02 April 2012.

Type: Telephonic Video Conference
 Personal [copy given to: applicant applicant's representative]

Exhibit shown or demonstration conducted: Yes No.
If Yes, brief description: _____.

Issues Discussed 101 112 102 103 Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 37.

Identification of prior art discussed: Murphy.

Substance of Interview

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant argued that the combination of a finished fabric having at least a 90 inch width and a high gauge fabric is not known in the art and that the inventor needed special consideration in order to manufacture such a product. Applicant proposed adding a high gauge fabric into the independent claim. Further consideration and/or search is required.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Attachment

/ROBERT G. SANTOS/
Primary Examiner, Art Unit 3673

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.			
	Filing Date October 12, 2011		Group Art Unit 3673	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	1	European Communication mailed March 12, 2012 from European application no. 09817024.4 (5 pages).
	2	Pending claims of U.S. application no. 12/569,659 as of April 10, 2012.
	3	Pending claims of U.S. application no. 13/272,977 as of April 10, 2012.
	4	Transaction history from PAIR of U.S. application no. 12/569,659 as of April 10, 2012.
	5	Transaction history from PAIR of U.S. application no. 13/272,977 as of April 10, 2012.

Examiner Signature	Date Considered
--------------------	-----------------

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Electronic Patent Application Fee Transmittal

Application Number:	13271884			
Filing Date:	12-Oct-2011			
Title of Invention:	Fabric System			
First Named Inventor/Applicant Name:	Susan Walvius			
Filer:	Frank L. Gerratana/jennifer franco			
Attorney Docket Number:	29712-0002002			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
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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(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	12507963
Application Number:	13271884
International Application Number:	
Confirmation Number:	4645
Title of Invention:	Fabric System
First Named Inventor/Applicant Name:	Susan Walvius
Customer Number:	26161
Filer:	Frank L. Gerratana/jennifer franco
Filer Authorized By:	Frank L. Gerratana
Attorney Docket Number:	29712-0002002
Receipt Date:	11-APR-2012
Filing Date:	12-OCT-2011
Time Stamp:	17:30:25
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$180
RAM confirmation Number	4542
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
		000157			

1	Non Patent Literature	2EP1_COMM_3_12_12.pdf	212882 259f97bf77a4b0340ca86cdeb83a885bcafb8e51f	no	5
Warnings:					
Information:					
2	Non Patent Literature	2001_pendingClaims.pdf	52210 81025459d3e214cf3ee6bf40dcb3170f867e3f0b	no	6
Warnings:					
Information:					
3	Non Patent Literature	2003_PendingClaims.pdf	44880 ac67b71778e2748b63a12bc02c0a2145ca802b9e	no	4
Warnings:					
Information:					
4	Non Patent Literature	2001_TH.pdf	71578 c3cf2da93a4100cb338ce50da393a0b8461f0ef8	no	2
Warnings:					
Information:					
5		2002_IDS.pdf	129747 e41cbbf64d2de976a68d2e8cec9923edf5f86f75	yes	3
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	Document Description		Start	End	
	Transmittal Letter		1	2	
	Information Disclosure Statement (IDS) Form (SB08)		3	3	
Warnings:					
Information:					
6	Non Patent Literature	2003_TH.pdf	69110 a546a7d8bfc998a0c8748d731f24b901f98bd8b4	no	2
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Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	29748 88aa48b3f44c0791355b1b5aae1bfc89eaeedd9	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			610155		

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.

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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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Susan Walvius et al.	Art Unit :	3673
Serial No. :	13/271,884	Examiner :	Nicholas F. Polito
Filed :	October 12, 2011	Conf. No. :	4645
Title :	FABRIC SYSTEM		

MAIL STOP AMENDMENT

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

INFORMATION DISCLOSURE STATEMENT

Please consider the references listed on the attached PTO-1449 form.

Copies of United States patent documents will be provided upon request. Copies of all non-U.S. patent documents and other documents are enclosed.

The United States patent applications and/or patents listed below contain material related to material in this application. Copies of the applications and/or patents, their current claims (in the case of patents), and their transaction histories from the patent office public PAIR website are enclosed (or were provided previously with information disclosure statements identified in the table).

The applicant invites the examiner to consider the claims and claim amendments of these other applications and/or patents, and the positions of the examiners and the applicant that appear in their prosecution histories. The applicant understands that the examiner has direct access to these papers at the patent office, but will be happy to provide copies to the examiner upon request.

Applicant : Susan Walvius et al.
Serial No. : 13/271,884
Filed : October 12, 2011
Page : 2 of 2

Attorney's Docket No.: 29712-0002002

US serial number and filing date/ status	Examiner and group art unit	Is patent or application attached and listed on form 1449 and/or what is the date of a prior information disclosure statement with which it was submitted	In the case of an application, are claims attached or what is the date of a prior information disclosure statement with which they were submitted	Is current PAIR transaction history attached and listed on form 1449
61/101,049 09/29/2008 Expired	N/A	No	No	No
12/569,659 09/29/2009 Pending	Nicholas F. Polito GAU 3673	No - publication 2011/0000020 submitted 2/16/12	Yes	Yes
13/272,977 10/13/2011 Pending	Nicholas F. Polito GAU 3673	No - publication 2012/0030874 submitted 2/16/12	Yes	Yes

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. The fees in the amount of \$180 in payment of the late submission fee of \$1.17(p) are being paid concurrently herewith. In addition, please apply any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: April 11, 2012 _____

/Frank L. Gerratana/ _____
Frank L. Gerratana
Reg. No. 62,653

Customer Number 26161
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

22825480.doc

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Susan Walvius et al.
Serial No. : 13/271,884
Filed : October 12, 2011
Title : FABRIC SYSTEM

Art Unit : 3673
Examiner : Nicholas F. Polito
Conf. No. : 4645

Mail Stop Amendment

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

SUPPLEMENTAL REPLY TO ACTION DATED JANUARY 4, 2012

CERTIFICATE OF MAILING BY EFS-WEB FILING

I hereby certify that this paper was filed with the Patent and Trademark Office using the EFS-WEB system on this date: April 6, 2012.

000162

Amendments to the claims (this listing replaces all prior versions):

- 1-13. (Cancelled).
14. (Withdrawn) A method of making a finished fabric at least 90 inches wide comprising:
forming at least two discrete performance fabric portions; and
joining at least two discrete performance fabric portions to form the finished fabric.
15. (Withdrawn) The method of claim 14, wherein forming at least two discrete performance fabric portions comprises knitting at least two discrete performance fabric portions.
16. (Withdrawn) The method of claim 14, wherein forming at least two discrete performance fabric portions comprises circular knitting at least one of the discrete performance fabric portions.
17. (Withdrawn) The method of claim 14, wherein joining at least two discrete performance fabric portions to form the finished fabric comprises stitching at least two discrete performance fabric portions together to form the finished fabric.
18. (Withdrawn) The method of claim 14, wherein the two discrete performance fabric portions are joined by flatlock stitching.
19. (Withdrawn) The method of claim 14, comprising
heat setting finishing the joined at least two discrete fabric portions.

20. (Withdrawn) The method of claim 14 wherein the finished fabric comprises a bed sheet.

21. (Withdrawn) The method of claim 20, further comprising providing piping to the bed sheet.

22. (Withdrawn) The method according to claim 14, wherein the at least two discrete fabric portions have different fabric characteristics.

23. (Withdrawn) The method of making a finished fabric at least 90 inches wide comprising
circular knitting at least two discrete fabric portions;
stitching at least two discrete fabric portions; and
heat setting finishing the stitched at least two discrete fabric portions.

24. (Withdrawn) A method of making a bed sheet at least 90 inches wide from performance fabric comprising
circular knitting at least two discrete fabric portions; the two discrete fabric portions having different fabric characteristics including at least one of the following: moisture management, UV protection, anti-microbial, thermo-regulation, wind resistance, and water resistance;
stitching at least two discrete fabric portions together;
heat setting finishing the stitched at least two discrete fabric portions to form a finished bed sheet; and
providing piping to the finished bed sheet.

25. (Currently Amended) A finished fabric at least 90 inches wide comprising:
a first circular knitted fabric portion; and a second circular knitted fabric portion, at least one of the circular knitted fabric portions comprising a circular knitted performance fabric portion knitted at a high gauge;

wherein the first and second fabric portions are discrete; and
wherein the first and second fabric portions are joined to form the finished fabric.

26. (Previously Presented) The finished fabric of claim 25, further comprising piping.

27. (Previously Presented) The finished fabric of claim 25, wherein the first and second fabrics have different fabric characteristics.

28. (Previously Presented) The finished fabric of claim 27, wherein at least one of the fabric characteristics comprises moisture management.

29. (Previously Presented) The finished fabric of claim 27, wherein at least one of the fabric characteristics comprises UV protection.

30. (Previously Presented) The finished fabric of claim 27, wherein at least one of the fabric characteristics comprises anti-microbial properties.

31. (Previously Presented) The finished fabric of claim 27, wherein at least one of the fabric characteristics comprises thermo-regulation.

32. (Previously Presented) The finished fabric of claim 27, wherein at least one of the fabric characteristics comprises wind resistance.

33. (Previously Presented) The finished fabric of claim 27, wherein at least one of the fabric characteristics comprises water resistance.

34. (Previously Presented) The finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher breathability than a cotton fabric.

35. (Previously Presented) The finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher heat transfer than a cotton fabric.

36. (Previously Presented) The finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher moisture wicking characteristics than a cotton fabric.

37. (Previously Presented) The finished fabric of claim 25, having a gauge of at least 17 gauges.

38. (Previously Presented) The finished fabric of claim 25, comprising a bed sheet.

39. (Previously Presented) The finished fabric of claim 25, comprising a bed covered by the bed sheet.

40. (Previously Presented) The finished fabric of claim 25, wherein the bed sheet is sufficiently stretchable to fit a standard rectangular bed and a smaller, non-rectangular marine bed.

41. (Previously Presented) The finished fabric of claim 25, wherein the bed sheet is sufficiently stretchable to fit either a crib or a standard adult bed.

42. (Previously Presented) The finished fabric of claim 25, comprising a knit fabric that includes polyurethanepolyurea copolymer fiber.

43. (Previously Presented) The finished fabric of claim 42, wherein the polyurethanepolyurea copolymer fiber is included in the knit fabric in a proportion that, if circularly knit at a high gauge, the knit fabric could be knit at no more than a 72.5 inch circumference without losing integrity of the polyurethanepolyurea copolymer fiber.

REMARKS

This reply replaces the response filed on April 4, 2012 because Claim 25 was identified as "Previously Presented" in error, when in fact it should have read "Currently Amended". No other changes have been made.

The applicant's representatives David Feigenbaum and Frank Gerratana thank Examiner Polito and his supervisor, Examiner Santos, for attending a telephone interview conducted on April 2, 2012. Inventor Susan Walvius also attended the interview. During the interview, the rejections of claims 25 and 37 were discussed in the context of the inventor's experience with processes for producing high gauge fabrics. The foregoing amendments to the claims have been made in view of the discussion, as have the comments below which are each preceded by related comments of the examiner (in small, bold type):

Double Patenting

3. Claims 25-43 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 28 of copending Application No. 12/569,659 and claims 15-25, 28-37 and 41.

The applicant will consider filing a terminal disclaimer once the pending claims have been found to be allowable.

Claim Rejections -35 USC § 103

5. Claims 25-29 and 31-41 are rejected under 35 U.S.C. 1 03(a) as being unpatentable over Murphy et al. (U.S. Patent No. 6,823,548).

4. Regarding claim 25, Murphy et al. teach in Figures 1-3 a finished fabric comprising: a first circular knitted fabric portion (22); and a second circular knitted fabric

portion (24), at least one of the circular knitted fabric portions comprising a circular knitted performance fabric portion (Table 1, Ex. No. 1.3); wherein the first and second fabric portions are discrete; and wherein the first and second fabric portions are joined (col. 6, lines 41-48) to form the finished fabric.

Murphy et al. do not teach wherein the finished fabric is at least 90 inches wide. Murphy et al. teach column 3, lines 42 to 45 wherein the finished fabric is for a mattress. The examiner takes official notice that it is commonly known in the art for a standard size mattress cover to be at least 90 inches wide. Therefore, it would have been obvious to a person having ordinary skill in the art at the time

the invention was made to make the finished fabric of Murphy et al. at least 90 inches wide to cover a standard mattress.

Claim 25 has been amended to recite that “at least one of the circular knitted fabric portions comprising a circular knitted performance fabric portion knitted at a high gauge... wherein the first and second fabric portions are joined to form the finished fabric.” Murphy is not understood to describe or make obvious at least this feature of the claim.

Murphy is silent with regard to the gauge of a finished fabric. The rejection of claim 37 takes official notice with regard to the gauge of the finished fabric:

15. Regarding claim 37, Murphy et al. teach the finished fabric of claim 25. Murphy does not teach wherein the finished fabric has a gauge of at least 17 gauges. The examiner takes official notice that it is commonly known in the art to use high gauge fabrics for bed coverings. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a gauge of at least 17, 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.

In response, the applicant contends that it would not have been obvious to one having ordinary skill in the art at the time the invention was made to use a high gauge, such as a gauge of 17, in at least one of the circular knitted fabric portions joined to form the finished fabric.

The inventors, Susan Walvius and Michelle Marciniak, set out to create a bed sheet that had higher heat transfer characteristics than cotton bed sheets and also had a smooth feel when touched. The inventors believed that to have these characteristics, a fabric that was knit would have to be knit at a high gauge.

The inventors searched for fabric suppliers who could produce a fabric at a high gauge having a width suitable for use as a bed sheet. They discovered that this could not be done by the fabric suppliers that they contacted. In particular, the contacted fabric suppliers who produced fabric suitable for bed sheets produced fabric at a low gauge, and fabric suppliers who produced fabric at a high gauge produced fabric suitable for clothing such as athletic apparel.

In response, the inventors conceived of producing a finished fabric at least 90 inches wide by joining fabric portions, including a circular knitted performance fabric portion knitted at a high gauge. To the inventors' knowledge, even though narrow portions of fabric knitted at a

high gauge already existed, none of the contacted suppliers of fabric had joined these kinds of portions of fabric to produce a finished fabric at least 90 inches wide.

Once the inventors had conceived of producing a finished fabric at least 90 inches wide by joining discrete circular knitted fabric portions, such that at least one of the circular knitted fabric portions is knitted at a high gauge, the inventors put this product on the market. The product, branded as "SHEEX Performance Sheets," has been successful in the marketplace.

Accordingly, in part because it would not have been obvious to one having ordinary skill in the art at the time the invention was made to use a high gauge in at least one of the circular knitted fabric portions joined to form a finished fabric at least 90 inches wide, amended claim 25 is patentable.

2. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al. in view of Link et al. (U.S. Pub. No. 2007/0283493).

Claim 42 depends from claim 25 and is patentable for at least the same reasons as given for claim 25. Link is not understood to remedy the deficiencies of Murphy.

Allowable Subject Matter

24. Claim 43 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The applicant thanks the examiner for the indication of allowable subject matter.

All of the dependent claims are patentable for at least similar reasons as those for the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Applicant : Susan Walvius et al.
Serial No. : 13/271,884
Filed : October 12, 2011
Page : 9 of 9

Attorney's Docket No.: 29712-0002002

Please apply any charges or credits to deposit account 06-1050, referencing attorney docket 29712-0002002.

Respectfully submitted,

Date: April 6, 2012_____

/Frank L. Gerratana/_____
Frank L. Gerratana
Reg. No. 62,653

Customer Number 26161
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

22823901.doc

Electronic Acknowledgement Receipt

EFS ID:	12489951
Application Number:	13271884
International Application Number:	
Confirmation Number:	4645
Title of Invention:	Fabric System
First Named Inventor/Applicant Name:	Susan Walvius
Customer Number:	26161
Filer:	Frank L. Gerratana/jennifer franco
Filer Authorized By:	Frank L. Gerratana
Attorney Docket Number:	29712-0002002
Receipt Date:	06-APR-2012
Filing Date:	12-OCT-2011
Time Stamp:	16:27:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		response.pdf	97454 <small>532d7f61592fb286b52885ba1a71b1040fee4db5</small>	yes	9

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Amendment/Req. Reconsideration-After Non-Final Reject		1	1
Claims		2	5
Applicant Arguments/Remarks Made in an Amendment		6	9

Warnings:

Information:

Total Files Size (in bytes):	97454
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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.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/271,884	Filing Date 10/12/2011	<input checked="" type="checkbox"/> To be Mailed
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APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED (Column 1)	NUMBER EXTRA (Column 2)	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(j))</small>	minus 20 =	*	X \$ =		OR	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =			X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
	(Column 1)	(Column 2)	(Column 3)		SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT	04/06/2012	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	* 29	Minus	** 20	=	9	OR	X \$60=	540
	Independent <small>(37 CFR 1.16(h))</small>	* 3	Minus	***3	=	0	OR	X \$250=	0
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>								
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	540

	(Column 1)	(Column 2)	(Column 3)		SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=		OR	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>								
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/MONICA FRANCIS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
 If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Susan Walvius et al.
Serial No. : 13/271,884
Filed : October 12, 2011
Title : FABRIC SYSTEM

Art Unit : 3673
Examiner : Nicholas F. Polito
Conf. No. : 4645

Mail Stop Amendment

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

REPLY TO ACTION DATED JANUARY 4, 2012

CERTIFICATE OF MAILING BY EFS-WEB FILING

I hereby certify that this paper was filed with the Patent and Trademark Office using the EFS-WEB system on this date: April 4, 2012.

000174

Amendments to the claims (this listing replaces all prior versions):

- 1-13. (Cancelled).
14. (Withdrawn) A method of making a finished fabric at least 90 inches wide comprising:
forming at least two discrete performance fabric portions; and
joining at least two discrete performance fabric portions to form the finished fabric.
15. (Withdrawn) The method of claim 14, wherein forming at least two discrete performance fabric portions comprises knitting at least two discrete performance fabric portions.
16. (Withdrawn) The method of claim 14, wherein forming at least two discrete performance fabric portions comprises circular knitting at least one of the discrete performance fabric portions.
17. (Withdrawn) The method of claim 14, wherein joining at least two discrete performance fabric portions to form the finished fabric comprises stitching at least two discrete performance fabric portions together to form the finished fabric.
18. (Withdrawn) The method of claim 14, wherein the two discrete performance fabric portions are joined by flatlock stitching.
19. (Withdrawn) The method of claim 14, comprising
heat setting finishing the joined at least two discrete fabric portions.

20. (Withdrawn) The method of claim 14 wherein the finished fabric comprises a bed sheet.

21. (Withdrawn) The method of claim 20, further comprising providing piping to the bed sheet.

22. (Withdrawn) The method according to claim 14, wherein the at least two discrete fabric portions have different fabric characteristics.

23. (Withdrawn) The method of making a finished fabric at least 90 inches wide comprising
circular knitting at least two discrete fabric portions;
stitching at least two discrete fabric portions; and
heat setting finishing the stitched at least two discrete fabric portions.

24. (Withdrawn) A method of making a bed sheet at least 90 inches wide from performance fabric comprising
circular knitting at least two discrete fabric portions; the two discrete fabric portions having different fabric characteristics including at least one of the following: moisture management, UV protection, anti-microbial, thermo-regulation, wind resistance, and water resistance;
stitching at least two discrete fabric portions together;
heat setting finishing the stitched at least two discrete fabric portions to form a finished bed sheet; and
providing piping to the finished bed sheet.

25. (Previously Presented) A finished fabric at least 90 inches wide comprising:
a first circular knitted fabric portion; and a second circular knitted fabric portion, at least one of the circular knitted fabric portions comprising a circular knitted performance fabric portion knitted at a high gauge;

wherein the first and second fabric portions are discrete; and
wherein the first and second fabric portions are joined to form the finished fabric.

26. (Previously Presented) The finished fabric of claim 25, further comprising piping.

27. (Previously Presented) The finished fabric of claim 25, wherein the first and second fabrics have different fabric characteristics.

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30. (Previously Presented) The finished fabric of claim 27, wherein at least one of the fabric characteristics comprises anti-microbial properties.

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34. (Previously Presented) The finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher breathability than a cotton fabric.

35. (Previously Presented) The finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher heat transfer than a cotton fabric.

36. (Previously Presented) The finished fabric of claim 25, wherein the performance fabric portion comprises a man-made fiber that has higher moisture wicking characteristics than a cotton fabric.

37. (Previously Presented) The finished fabric of claim 25, having a gauge of at least 17 gauges.

38. (Previously Presented) The finished fabric of claim 25, comprising a bed sheet.

39. (Previously Presented) The finished fabric of claim 25, comprising a bed covered by the bed sheet.

40. (Previously Presented) The finished fabric of claim 25, wherein the bed sheet is sufficiently stretchable to fit a standard rectangular bed and a smaller, non-rectangular marine bed.

41. (Previously Presented) The finished fabric of claim 25, wherein the bed sheet is sufficiently stretchable to fit either a crib or a standard adult bed.

42. (Previously Presented) The finished fabric of claim 25, comprising a knit fabric that includes polyurethanepolyurea copolymer fiber.

43. (Previously Presented) The finished fabric of claim 42, wherein the polyurethanepolyurea copolymer fiber is included in the knit fabric in a proportion that, if circularly knit at a high gauge, the knit fabric could be knit at no more than a 72.5 inch circumference without losing integrity of the polyurethanepolyurea copolymer fiber.

REMARKS

The applicant's representatives David Feigenbaum and Frank Gerratana thank Examiner Polito and his supervisor, Examiner Santos, for attending a telephone interview conducted on April 2, 2012. Inventor Susan Walvius also attended the interview. During the interview, the rejections of claims 25 and 37 were discussed in the context of the inventor's experience with processes for producing high gauge fabrics. The foregoing amendments to the claims have been made in view of the discussion, as have the comments below which are each preceded by related comments of the examiner (in small, bold type):

Double Patenting

3. Claims 25-43 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 28 of copending Application No. 12/569,659 and claims 15-25, 28-37 and 41.

The applicant will consider filing a terminal disclaimer once the pending claims have been found to be allowable.

Claim Rejections -35 USC § 103

5. Claims 25-29 and 31-41 are rejected under 35 U.S.C. 1 03(a) as being unpatentable over Murphy et al. (U.S. Patent No. 6,823,548).

4. Regarding claim 25, Murphy et al. teach in Figures 1-3 a finished fabric comprising: a first circular knitted fabric portion (22); and a second circular knitted fabric

portion (24), at least one of the circular knitted fabric portions comprising a circular knitted performance fabric portion (Table 1, Ex. No. 1.3); wherein the first and second fabric portions are discrete; and wherein the first and second fabric portions are joined (col. 6, lines 41-48) to form the finished fabric.

Murphy et al. do not teach wherein the finished fabric is at least 90 inches wide. Murphy et al. teach column 3, lines 42 to 45 wherein the finished fabric is for a mattress. The examiner takes official notice that it is commonly known in the art for a standard size mattress cover to be at least 90 inches wide. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to make the finished fabric of Murphy et al. at least 90 inches wide to cover a standard mattress.

Claim 25 has been amended to recite that “at least one of the circular knitted fabric portions comprising a circular knitted performance fabric portion knitted at a high gauge... wherein the first and second fabric portions are joined to form the finished fabric.” Murphy is not understood to describe or make obvious at least this feature of the claim.

Murphy is silent with regard to the gauge of a finished fabric. The rejection of claim 37 takes official notice with regard to the gauge of the finished fabric:

15. Regarding claim 37, Murphy et al. teach the finished fabric of claim 25. Murphy does not teach wherein the finished fabric has a gauge of at least 17 gauges. The examiner takes official notice that it is commonly known in the art to use high gauge fabrics for bed coverings. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a gauge of at least 17, 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.

In response, the applicant contends that it would not have been obvious to one having ordinary skill in the art at the time the invention was made to use a high gauge, such as a gauge of 17, in at least one of the circular knitted fabric portions joined to form the finished fabric.

The inventors, Susan Walvius and Michelle Marciniak, set out to create a bed sheet that had higher heat transfer characteristics than cotton bed sheets and also had a smooth feel when touched. The inventors believed that to have these characteristics, a fabric that was knit would have to be knit at a high gauge.

The inventors searched for fabric suppliers who could produce a fabric at a high gauge having a width suitable for use as a bed sheet. They discovered that this could not be done by the fabric suppliers that they contacted. In particular, the contacted fabric suppliers who produced fabric suitable for bed sheets produced fabric at a low gauge, and fabric suppliers who produced fabric at a high gauge produced fabric suitable for clothing such as athletic apparel.

In response, the inventors conceived of producing a finished fabric at least 90 inches wide by joining fabric portions, including a circular knitted performance fabric portion knitted at a high gauge. To the inventors' knowledge, even though narrow portions of fabric knitted at a high gauge already existed, none of the contacted suppliers of fabric had joined these kinds of portions of fabric to produce a finished fabric at least 90 inches wide.

Once the inventors had conceived of producing a finished fabric at least 90 inches wide by joining discrete circular knitted fabric portions, such that at least one of the circular knitted fabric portions is knitted at a high gauge, the inventors put this product on the market. The product, branded as "SHEEX Performance Sheets," has been successful in the marketplace.

Accordingly, in part because it would not have been obvious to one having ordinary skill in the art at the time the invention was made to use a high gauge in at least one of the circular knitted fabric portions joined to form a finished fabric at least 90 inches wide, amended claim 25 is patentable.

2. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al. in view of Link et al. (U.S. Pub. No. 2007/0283493).

Claim 42 depends from claim 25 and is patentable for at least the same reasons as given for claim 25. Link is not understood to remedy the deficiencies of Murphy.

Allowable Subject Matter

24. Claim 43 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The applicant thanks the examiner for the indication of allowable subject matter.

All of the dependent claims are patentable for at least similar reasons as those for the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Applicant : Susan Walvius et al.
Serial No. : 13/271,884
Filed : October 12, 2011
Page : 9 of 9

Attorney's Docket No.: 29712-0002002

Please apply any charges or credits to deposit account 06-1050, referencing attorney docket 29712-0002002.

Respectfully submitted,

Date: April 4, 2012_____

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22788567.doc

Electronic Acknowledgement Receipt

EFS ID:	12467528
Application Number:	13271884
International Application Number:	
Confirmation Number:	4645
Title of Invention:	Fabric System
First Named Inventor/Applicant Name:	Susan Walvius
Customer Number:	26161
Filer:	Frank L. Gerratana/jennifer franco
Filer Authorized By:	Frank L. Gerratana
Attorney Docket Number:	29712-0002002
Receipt Date:	04-APR-2012
Filing Date:	12-OCT-2011
Time Stamp:	14:43:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		response.pdf	96975 <small>50fd1d0c127446b9c76bbeffc68220cce6745b43b</small>	yes	9

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Amendment/Req. Reconsideration-After Non-Final Reject		1	1
Claims		2	5
Applicant Arguments/Remarks Made in an Amendment		6	9

Warnings:

Information:

Total Files Size (in bytes):	96975
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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.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/271,884	Filing Date 10/12/2011	<input type="checkbox"/> To be Mailed
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APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	SMALL ENTITY <input type="checkbox"/>		OR	SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A			N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(j))</small>	minus 20 =	*	X \$ =		OR	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =			X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY		OR	SMALL ENTITY	
AMENDMENT	04/04/2012	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	* 30	Minus	** 30	=	0	OR	X \$60=	0
	Independent <small>(37 CFR 1.16(h))</small>	* 4	Minus	***4	=	0	OR	X \$250=	0
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>									
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY				
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY		OR	SMALL ENTITY	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=		OR	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=		OR	X \$ =	
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>									
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
 /FREDERICK BRISCOE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
 If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.		
	Filing Date October 12, 2011		Group Art Unit 3673

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1	2,804,632	09-1957	Jesse Ford Alexander			
	2	2011/0000020	01-2011	Walvius et. al.			
	3	2012/0030874	02-2012	Walvius et. al.			
	4	4,648,186	03-1987	Dolman et al.			
	5	5,092,088	03-1992	Way			
	6	5,636,380	06-1997	Schindler et al.			
	7	7,117,695	10-2006	Laycock et al.			
	8	2008/0028523	02-2008	Robertson et al.			
	9	2007/0266495	11-2007	Stribling			
	10	2004/0172754	09-2004	Brooks et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	11	CN102245822A	11/16/2011	China			X	
	12	JP 11-309183	11/9/1999	Japan			X	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	13	Canadian office action issued January 16, 2012 in Canadian application no. 2,738,658 (4 pages).
	14	European communication mailed May 27, 2011 from European application no. 09817024.4 (2 pages).
	15	Response to European communication mailed May 27, 2011 from European application no. 09817024.4 filed November 22, 2011 (12 pages).
	16	Pending claims of U.S. application no. 12/569,659 as of February 15, 2012.
	17	Pending claims of U.S. application no. 13/272,977 as of February 15, 2012.
	18	Transaction history from PAIR of U.S. application no. 12/569,659 as of February 15, 2012.
	19	Transaction history from PAIR of U.S. application no. 13/272,977 as of February 15, 2012.
	20	International Preliminary Report on Patentability from PCT application no. PCT/US2009/058716 mailed April 7, 2011 (6 pages).
	21	International Search Report from PCT application no. PCT/US2009/058716 mailed April 29, 2010 (3 pages).

Examiner Signature	Date Considered
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EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 29712-0002002	Application No. 13/271,884
	Applicant Susan Walvius et al.			
	Filing Date October 12, 2011		Group Art Unit 3673	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	22	Written Opinion from PCT application no. PCT/US2009/058716 mailed April 29, 2010 (4 pages).
	23	European Communication mailed February 16, 2012 from European application no. 09817024.4 (4 pages).

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	



Espacenet

Bibliographic data: CN102245822 (A) — 2011-11-16

FABRIC SYSTEM

Inventor(s):

Applicant(s):

Classification: - **international:** **D03D11/00; D04B21/14**
 - **European:** **A47G9/02B1; D04B1/18**

Application number: CN20098147643 20090929

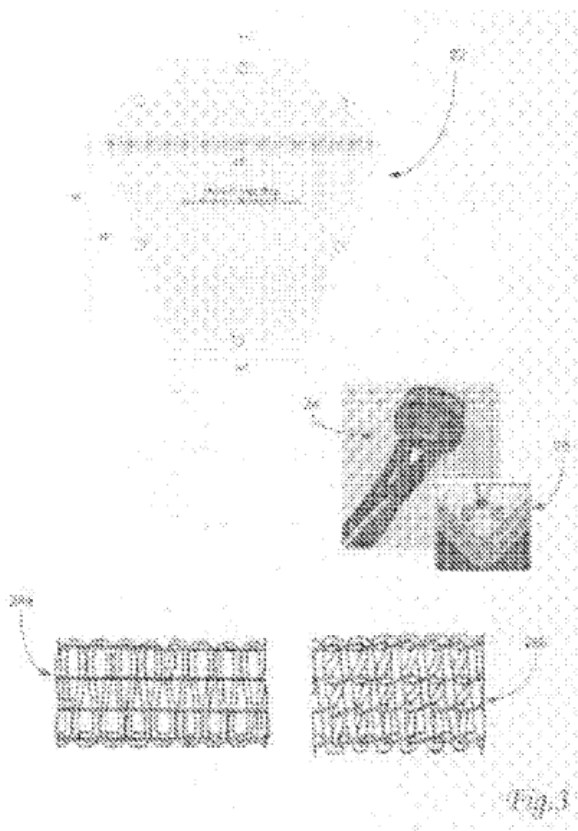
Priority number (s): WO2009US58716 20090929; US20080101049P 20080929

Also published as: WO2010037082 (A2) WO2010037082 (A3)
 US2012030874 (A1) US2012024013 (A1)
 US2011000020 (A1) more

Abstract not available for CN102245822 (A)

Abstract of corresponding document: WO2010037082 (A2)

Bedding material including a first fabric section manufactured from performance fabric and having a first and second side; and, a second fabric section attached to the first side of the first fabric section. Additionally, a third fabric section can be attached to the second side of the first fabric section. The first fabric section can be attached to the second fabric section through a flatlock stitch. The first fabric section can include a first zone and a second zone wherein the first zone contains different performance properties from the second zone and the first zone can have thermal or moisture wicking properties.



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D03D 11/00 (2006. 01)

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11105

代理人 曲莹

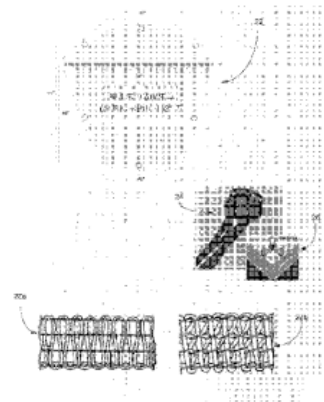
权利要求书 1 页 说明书 6 页 附图 4 页

(54) 发明名称

织物系统

(57) 摘要

寝具材料, 包括第一织物部分和第二织物部分, 所述第一织物部分用性能织物制成并具有第一侧面和第二侧面, 所述第二织物部分附着在所述第一织物部分的所述第一侧面上。另外, 还可在所述第一织物部分的第二侧面上附着第三织物部分。所述第一织物部分可通过平式锁缝线迹附着在第二织物部分上。所述第一织物部分可包括第一区域和第二区域, 其中所述第一区域包含不同于第二区域的功能特性, 而且所述第一区域可具有芯吸散热或散湿特性。



CN 102245822 A

1. 一种制造至少 90 英寸幅宽成品织物的方法,该方法包括:
形成至少两个分离的性能织物部分;和
结合至少两个分离的性能织物部分以形成成品织物。
2. 权利要求 1 所述的方法,其中所述形成至少两个分离的性能织物部分包括针织至少两个分离的性能织物部分。
3. 权利要求 1 所述的方法,其中所述形成至少两个分离的性能织物部分包括圆形针织至少两个分离的性能织物部分。
4. 权利要求 1 所述的方法,其中所述结合至少两个分离的性能织物部分以形成成品织物包括将至少两个分离的性能织物部分缝合在一起,以形成成品织物。
5. 制造至少 90 英寸幅宽成品织物的方法,该方法包括:圆形针织至少两个分离的性能织物部分;并将至少两个分离的性能织物部分缝合在一起,以形成成品织物。
6. 权利要求 5 所述的方法,其中所述成品织物包括床单。
7. 权利要求 5 所述的方法,该方法还包括热定形整理该成品织物。
8. 权利要求 5 所述的方法,该方法还包括对成品织物进行滚边。
9. 一种用性能织物制造幅宽至少 90 英寸床单的方法,该方法包括:
圆形针织至少两个分离的性能织物部分;
将至少两个分离的性能织物部分缝合在一起;以及
对缝合后的至少两个分离的性能织物部分进行热定形整理,以形成成品床单。
10. 权利要求 9 所述的方法,该方法还包括对成品床单进行滚边。
11. 权利要求 9 所述的方法,其中所述至少两个分离的性能织物部分的织物特征不同。
12. 权利要求 11 所述的方法,其中织物特征选自水分控制、紫外线防护、抗微生物、热调节、挡风和防水组成的组中。
13. 一种幅宽至少 90 英寸的成品织物,该织物包括:
第一圆筒形针织性能织物;和
第二圆筒形针织性能织物;
其中第一性能织物和第二性能织物是分离的织物;而且
其中第一性能织物和第二性能织物相连以形成成品织物。
14. 权利要求 13 的成品织物,其中所述成品织物包括床单。
15. 权利要求 13 的成品织物,该方法还包括滚边。
16. 权利要求 13 的成品织物,其中第一性能织物和第二性能织物的织物特征不同。
17. 权利要求 16 的成品织物,其中织物特征选自水分控制、紫外线防护、抗微生物、热调节、挡风和防水组成的组中。

织物系统

技术领域

[0001] 本发明总体上涉及织物系统,更具体地涉及由高织针号圆形针织物构成的床罩,该床罩调节并保持最佳睡眠温度条件,这些条件又能诱发快速入睡并使睡眠更深、更具恢复性。

背景技术

[0002] 根据国家睡眠基金会(NSF)的研究,睡眠问题在美国非常普遍,它影响着大约四分之三的美国成年人。因此,人们对睡眠差的状况和如何提高睡眠质量的对策都已给予很大关注。

[0003] 结论并非纯粹学术性的。睡眠-不仅需要量而且还需要合宜质量-不只是逐日行为表现,而且按照 NSF 的研究,也是“我们生活的总质量”。因此,考虑低质量睡眠的原因有着数以百万计的结果。

[0004] 虽然许多因素促进了睡眠质量,但睡眠环境本身起着决定性的作用,而且睡眠研究人员通常强调把温度作为最佳睡眠的一个最重要的组成部分。正如马里兰大学医疗中心所建议的那样,“凉爽(非寒冷的)卧室常常最有助于睡眠”。国家睡眠基金会还指出,“温度超过 75 华氏度和低于 54 华氏度会扰乱睡眠”,根据 NSF 的研究,65 度是大多数个体的理想睡眠温度。

[0005] 较低的环境温度不是与改进睡眠有联系的唯一热因数。研究人员已曾指出,健康人、正常成年人夜间睡眠时体温降低。据康奈尔大学的医学研究人员研究,这个自然循环,当受到制止或不恰当运行时,会扰乱睡眠和延迟睡眠起始。相反,研究人员注意到,体温迅速下降不但加速睡眠起始,而且也“可促进进入更深的睡眠”。

[0006] 因此,保持适当凉爽的睡眠环境并提供人体夜晚自身凉爽的自然趋势,应该是关注最佳自身睡眠质量的个人最优先考虑的事。精巧制作成寝具敷覆物的性能织物尤能促进凉爽、舒适-并因此更好的-睡眠,因为这些高级织物能使透气性和传热性最大化。性能织物应诸多终极用途而制造,可提供多重功能质量,例如水分控制、紫外线防护、抗微生物、热调节和挡风/防水。

[0007] 在一些工业中,早就需要改进寝具,以助个体睡得更好。除了别的性质以外,这种改进的寝具还将包括有益的芯吸特性。例如,在海上驾艇和娱乐车应用中,寝具应该抵御潮湿,配合异形床垫和床,并减少长霉。特别使用水运工具,存在着保护寝具,特别是床单不受潮、不长霉斑的需求。

[0008] 寝具的另一个不仅涉及船舶与休闲车辆的问题,是粘湿感,这种粘湿感可能发生在床单被体汗、环境湿气或者其他体液弄湿的时候。尤当暑热天气使用寝具时,或者病人连续很长时间使用寝具时,就会出现这些问题,因为棉纤维等制的传统床单不能充分吸收湿气。所有这些问题都会导致睡眠质量差。

[0009] 迄今为止,性能织物制成的寝具产品不为人知。制造高织针号圆筒形针织物时幅宽受到限制,这是因为寝具织物的成品幅宽由织造时所用织机支配。现时,受现有制造与技

术上的限制,又加上替代的制造工艺无能力制造性能属性等同的织物,所以性能织物以小于 90 英寸的最大幅宽来制造。然而,正常床单的幅片尺码可为 102×91 英寸或更大。因此,性能织物尚不能用于床单。

[0010] 上述妨碍夜间优质睡眠问题的一些常规解决方案包括美国专利 4,648,186,该文件公开了一种吸收性木浆纤维素纤维,它以各种各样的尺寸供给并置于床垫下面。这种木浆是水吸收剂,并起着收集湿气以防这样的湿气被寝具或床单吸留的作用。然而,所建议的这一解决方案不对寝具或床单发生作用,而对接近于目标寝具的湿气仅仅起到海绵的作用。

[0011] 美国专利 5,092,088 公开了一种像床单的铺垫,该铺垫由垫套组成,其内部被分成多个像袋子的空间,干燥剂挤入袋子中,并用这样的方式容纳在像袋子的空间中,致使干燥剂不能从像袋子的空间里掉出来。硫酸镁、高聚物吸收剂、硅胶等均可用作干燥剂。如可见的那样,所建议的这个寝具中湿气的解决方案繁琐不便,而且基于化学原理。

[0012] 在运动服装工业中,湿气通过毛细作用带走的织物已用来加工运动服。例如,美国专利 5,636,380 公开了一种 CoolmaxQ 高蒸湿织物底布,该底布具有一块或多块 ThermaxB 隔热板或者 ThermastatQ 中空型芯纤维织物,该中空型芯纤维织物具有通过毛细作用带走湿气的的能力,并应用于需要保护肌肉的所选身体部分接触皮肤的衣服内侧上。然而,由于所制性能织物的尺寸限制,这样的应用不适于床单。此外,由于纤度细得以至于缝合这种织物会导致缝合干脆散架,所以像这种类型的性能织物不能容易地缝合在一起。

[0013] 圆形针织通常用于运动服。此工艺包括将纱循环针织到织物中。圆形针织是一种将织针编组成圆形针床的纬编形式。圆筒旋转并与凸轮相互作用,往复传送织针来进行成圈动作。将待针织的纱从卷装供入导纱器板,该导纱器板把纱股对准织针。圆形织物经由圆筒的中心以管状形式从织针产生出来。美国专利 7,117,695 中记述了这一工艺。然而,用于这种制造方法、目前可购得的机器只能制造最大幅宽约 90 英寸的织物。因此,无人知晓这种工艺可制造床单,这是因为床单的尺寸可为 91 英寸 × 102 英寸或更大。

[0014] 另外,用来制造寝具的机器还与制造运动服的机器颇不相同。例如,寝具制造设备不配备缝纫平式锁缝线迹或者提供圆形针织。床单通常用一种通称为经编的方法针织而得,这是一种能按寝具所需幅宽制造成品布的方法。然而,这种方法不能用来制造优质性能织物。举例来说,经编不能复制这些织物的细微触觉品质,也不能复制其全方位延伸特性。

[0015] 圆形针织可用来制造能保持这些织物全部裨益与优点的性能织物。然而,为了制造一种适合寝具应用幅宽的织物,直径至少为 48 英寸的圆筒形针织机将是必要的。因此,制造的限制规定阻止了以合适寝具幅宽织造性能织物。即使可容易得到机器,产业对能否实际上针织并然后以这些大尺寸完成性能织物也仍缺乏信心。

[0016] 另外,运动服缝制工厂通常不配备能缝纫与处理大的织物碎片,所以设备上的限制不允许制造床单。

[0017] 因此,需要的是一种利用性能织物及其有益特性的寝具系统,这种系统的设计肯定并考虑到这些织物制造中的局限性。本发明主要指向的就是这样一种系统。

发明内容

[0018] 以优选方式简单地说,本发明是一种供寝具之用的高织针号圆筒形针织物,也是

一种用于制造这种寝具的方法。这种寝具织物具有优异的功能特性,而且还能用目前可得到的、目前使用中的机器来制造。为了实现制造床单尺码的性能织物所需的成品幅宽尺码,必需有直径至少为 48 英寸的高织针号圆筒形针织机。而且当能得到可制造较宽织物的经编机时,这种方法不会提供所需触觉品质的织物,也不提供全方位延伸的织物。

[0019] 在一示例性实施例中,本发明是一种制造成品布的方法,该成品布包括至少两个分离的性能织物部分,并将至少两个分离的性能织物部分缝合起来,形成成品布。形成所述至少两个分离的性能织物部分可包括针织至少两个分离的性能织物部分,而且更优选圆形针织至少两个分离的性能织物部分。缝合至少两个分离的性能织物部分来形成成品织物,这可包括将至少两个分离的性能织物部分缝合在一起,以形成成品织物。

[0020] 所述至少两个分离的性能织物部分可具有不同的织物特征。本文中所述的织物特征尤其包括水分控制、紫外线防护、抗微生物、热调节、挡风以及防水。

[0021] 连同其他应用一道,所述成品织物可用于居室配置,或者在海洋环境中、在船和娱乐车环境中。

[0022] 现有床单与传统的棉寝具相比,提供了增强的悬垂性和舒适感,而且精细如丝,却仍提供高弹性和复原的益处,外加比传统棉寝具优异的透气性、体温传导性以及水分控制。

[0023] 传统的配套的床单可在标准床垫尺寸上集束和滑动。此外,如若配套的床单不匹配,则这些床单还不提供可依赖的光滑表面。本发明克服了这些问题。

[0024] 现有高织针号圆筒形针织物可伸缩得能在床垫上调整并提供优异的复原,使织物能顺应床垫调整而不跳出床垫的拐角或波浪形拐角。所述性能织物可包含斯潘德克斯弹性纤维 (spandex),提供比传统寝具产品更加好的适配,能够以单一尺码的床单容纳更大或较小的床垫尺寸,并能以各种各样的奇怪尺寸适应床垫。

[0025] 斯潘德克斯弹性纤维 (Spandex) - 或弹性纤维 - 是一种合成纤维,因其卓越的弹性而著称。它比橡胶 (其主要的非合成竞争对手) 更坚固,而且更耐用。它是 DuPont 公司发明的一种聚氨酯 - 聚脲共聚物。“潘德克斯弹性纤维”是一种类名,而且是“expands”这个词的音节倒序词。“Spandex”是北美洲的优选名称;其它地方称为“elastane”。与 spandex 有关的最著名品牌名是 Lycra,它是 Invista 公司的商标。

[0026] 现有高织针号圆筒形针织物与其他针织技术相比,在减少起球和牵扯方面提供了耐用性,并提供减少的折皱和增强的固色性。

[0027] 在一种优选实施例中,现有性能织物能够允许单一尺码适配的床单实际上适配两种不同尺寸的床垫。举例来说,本发明的原尺寸适配床单能在普通双人床和大号的床上都适配。本发明的双人床适配床单也将适配 XL 双人床。在航船应用中,可制造本发明织物来适配几乎所有的常规船用床垫。

[0028] 在北卡罗莱纳州立大学 (NCSU) 纺织品防护和舒适性研究中心进行的测试证实了本发明性能织物提供比棉更为凉爽的睡眠环境。在一系列设计成能测量各产品传热特性和传湿特性以及暖和 / 凉爽到接触热输送能力的程序中,功能寝具与市售棉床单并行测试。

[0029] 通过所有测试,本发明性能织物在寝具方面工作性能比棉好,证实该性能织物在建立和保持睡眠期间热舒适方面的优越性。如 NCSU 测试指出,用户从初始起就明白这一优点,通常本发明的功能寝具提供了改进的皮肤初次接触时的传热性,导致凉爽触感。

[0030] 睡眠期间,本发明高织针号圆筒形针织功能寝具由于吸收较少体热且比棉透气更

好而有助于保持热舒适性。测试已证实,由性能织物制成的功能寝具从身体传走热的效率比棉高达两倍以上。这不仅对维持睡眠期间舒适至关重要,而且对身体能尽快凉下来以促进入睡也是至关重要的。除少吸热之外,功能寝具透气性比棉高—高至 50%,在通风和散热、排湿诸方面赋予功能寝具一种重大优点。

[0031] 对模拟干、湿皮肤条件而言,优于棉的性能优点证实了在控制湿气(例如出汗)以保持热舒适时,某些性能织物在寝具方面比棉更适合。除通过毛细作用从皮肤带走湿气之外,性能织物的先进透气性还能通过蒸发冷却来散热、散水分。结果,使用者保持凉爽、干燥,而且比棉更舒适。

[0032] 本发明功能寝具在能调节并保持最优睡眠热况方面比棉保有显著的优点,这个优点又能导致更快入睡和更深、更有助于复元的睡眠。

[0033] 结合附图阅读以下详细说明后,本发明的这些目的及其他目的、特点和优点就会更加明显。

附图说明

[0034] 图 1 示出本发明的一种优选实施例。

[0035] 图 2 示出本发明的另一种优选实施例。

[0036] 图 3 示出本发明的再一种优选实施例。

[0037] 图 4 示出本发明的另一种优选实施例。

具体实施方式

[0038] 虽然详细说明了本发明的各优选实施例,但须理解的是,其他实施例也属考虑之列。因此,不意在将本发明的范围限制于下列说明中所述或附图中所举例说明的结构细节和零件排列。本发明能采用其他实施例,并能以各种方式实际操作或者贯彻。同样,为明晰起见,在记述各优选实施例时,将借助特定术语。

[0039] 同样须注意的是,除上下文另行清楚指示外,说明书和所附权利要求中所用单数形式“一”、“一个”和“该”还包括所谈及事物的复数。举例来说,提及一个床单或者一部分也意在包括多个床单或者部分的制造。提及床单包含“一种”组分,除已定名的组分之外,也意指包括其他的组分。

[0040] 同样,为明晰起见,在记述各优选实施例时,将借助术语。各术语考虑到所属领域技术人员认为的最宽广含意,并包括技术上的各种等效替代物,这些等效替代物以类似方式起作用来实现相似的目的。

[0041] 本文中,范围区间可表达成从“约”或“大致”一个特定值和 / 或到“约”或“大致”另一个特定值。表达这种范围区间时,另一个具体方式包括从一个特定值和 / 或到另一个特定值。

[0042] “包括”或“包含”或“包括有”意指至少所提名的化合物、元素、微粒,或者存在于组合物或者物品或者方法中的方法步骤,但是不排除其他化合物、原料、微粒方法步骤的存在,即使另一种这样的混合、原料、微粒、方法步骤具有与已提及名称者同样的作用。

[0043] 还须理解的是,提及一个或多个方法步骤并不排除另外方法步骤的存在或者在那些清楚地鉴别的步骤之间插进一些方法步骤。同样,还须理解的是,提及织物或系统中一个

或多个组成部分,并不排除另外组成部分的存在或者在明确识别的组成部分之间插入一些组成部分。

[0044] 接下来详细参照附图,附图各视图中同样的附图标记始终代表同样的组成部分,图 1 和图 4 的本发明提供一种床单 10,图中示明尺寸为长 102 英寸、宽 91 英寸。材料用性能织物制成,可包括,举例来说,Lycra、Coolmax、Thermax 和 Thermostat 中的一种或多种,数量可变。在一种优选实施例中,对该织物进行处理,使之具有抗微生物特性。使用圆形针织性能织物时,该织物能产生四个方向上的全方位弹性。这种特性允许床单适配形状异乎寻常的床垫、坐垫和寝具,而且还能适配传统的长方形床单。使用性能织物时,床单具有弹性,这种弹性允许在表示为 30 的各方向上伸缩。另外,由于使用圆形针织性能织物,得到的寝具保持异常精细的触觉品质,这对最大程度增强舒适是至关重要的。

[0045] 非圆形针织例如经编可代替圆形针织。此方法能实现比圆形针织大的幅宽。工业经编针织机,例如能够制造宽度达 130-140 英寸的特里科经编针织物。然而,由于圆形针织要求较少准备时间,所以成本较低。同样,圆形针织也提供较大的多方向伸缩变化。

[0046] 为了提供一种可用市售圆型针织机制造、超过织物最大尺寸的床单,用平式锁缝线迹 12 来缝合多个部分,结果形成 91 英寸宽的床单(如图所示)。在一示例性实施例中,滚边 11 可包括在紧接线迹之处的范围内。线迹的颜色可与床单部分上织物的颜色相同,或可不同。滚边可为 3/4 英寸的直滚边,不含塞绳或者其他填充物。在一种优选实施例中,线迹是每英寸 16 针。滚边 11 可包括在床单的一端上,并可与床单织物同色或者不同色。

[0047] 对适配床单而言,该床单可包括弹性部分,该弹性部分围绕适配床单的边缘,以便在将该适配床单置于床垫或者其他睡眠表面时,能更好地将适配床单保持在适当的位置上。适配床单的边缘可缝入塞绳,并环绕床垫或其他睡眠表面捆紧,以更好地将适配床单固定在适当位置上。

[0048] 参照图 2,图中示明一种床单,其宽为 91 英寸,长为 102 英寸。在此实施例中,示明线迹 14 距离主要部分 16 上的内缘 18 为 34 英寸,而另一个线迹 14 则在缝合部的边缘 20 上。线迹可使用平式锁缝线迹。滚边可用在线迹上或者用在线迹附近。

[0049] 参照图 3,图中示明一种非长方形形状的床单。在该示例性实施例中,可包括环绕适配床单边缘的弹性带,以便当适配床单置于睡眠表面上时,更好地将适配床单保持在适当位置上。在一种实施例中,可将拉系带(pull ties)24 安置在环绕适配床单边缘的不同位置上,以帮助将适配床单保持固定在睡眠表面上。可抻紧所述拉系带来增大适配床单的边缘周围的张力,如图中 26 所示。

[0050] 用来把床单各个部分固定在一起的线迹可包括 28a 所示的线迹。在另一种实施例中,用来将织物各个部分固定在一起的线迹为图中 28b 所示的线迹。

[0051] 参照图 4,图中示明发明的又一种优选实施例。在此实施例中,床单可凭借不同织物的线迹组合起来,以在床单中形成一些功能区域。举例来说,区域 32 可比另一些区域具有较高的芯吸特性,因为这个区域是大多数个体躺卧之处。区域 34a 直至 34d 可具有较高的斯潘德克斯弹性纤维或者其他的弹性织物特性,所以改进了围绕睡眠表面的适配。区域 36 可具有例如增进凉爽的热力学特性,因为这个区域通常是个体头部枕置的地方。在一示例性实施例中,个体用的枕套同样具有不同于床单其余部分的特性,例如热力学特性。

[0052] 本发明包括寝具材料的构成,这类材料具有优异功能特性,同时又可用目前市售

和使用着的机器来制造。更具体地说,本发明涉及一种制造寝具中罩套及 / 或床单的新方法。当使用圆型针织机时,在不损失织物中斯潘德克斯弹性纤维的完整性的情况下,高织针号性能织物只能制成 72.5 英寸的最大尺寸。可是,正常床单的幅片尺码是 102×91 英寸。当用性能织物制造床单时,这就会出现这个问题。

[0053] 另外,考虑到织物的纱线密度,必须使用特定线迹技术。使用这种特定线迹把幅片缝在一起,以便制造适合标准床单尺码的寝具或床单。因为用分离的部分 / 幅片来制造本发明织物,所以可为不同的寝具区域选择幅片来提供不同特性(图 4)。床单上的线迹或接缝也使寝具能易于制造。因为寝具由含斯潘德克斯弹性纤维的性能织物组成,所以它可伸缩变化,以容许多重和常规尺寸定位,供婴儿床、娱乐车和船上应用。

[0054] 用来制造高织针号功能寝具织物的圆型针织机,由于能用细纱密实针织,故而被称作高织针号圆型针织机。高织针号通常指织针号 17 以上。织针号 17 指的是 1 英寸长度上排列 17 或更多个针筒针。小于织针号 17 的圆型针织机称为低织针号圆型针织机。低织针号圆型针织机常用来作针织外衣。

[0055] “纱支”指的是纱已纺到的线密度(纱直径或细度)。纱支的选择受所用针织机种类和针织结构的限制。纱支又影响成本、重量、不透明性、手感和所得的针织组织的悬垂性。通常,切段纤维所纺纱的支数越细就具有越贵的趋势,因为要防止纱外观不规则,纤维必需更细,而且纺纱方法必需更精确。

[0056] 虽然性能织物中斯潘德克斯弹性纤维含量越高就越有拉伸幅宽的倾向,但目前仍可用 36-38 英寸直径的织机上形成的圆筒形针织物制得 90 英寸范围内的顶宽。仅举一例,在 30 英寸直径织机上,斯潘德克斯弹性纤维可将另一种 94 英寸周长圆筒形针织物减到成品幅宽为 60-65 英寸的圆筒形针织物。

[0057] 成品幅宽的主要局限性不绝对关系到针织工艺,而且还与织物整理有关。性能织物在中间部有下垂倾向 - 较大幅宽时愈加下垂 - 这使织物整理难得不可能超出某一阈值。可能的 90 英寸成品幅宽随一种能处理本发明性能织物的优良的织物整理方案而定。在对床单要求更大幅宽的条件下,这种潜在困难只会变得错综复杂。

[0058] 在一种优选工艺中,本发明织物经历热定形整理工艺。将毛细吸湿整理运用到另一织物 - 例如可按较大幅宽制造的棉织物 - 就显现出不能与本发明织物的湿度控制特性匹配,因为聚酯本身天然防潮并在使用时起着物理作用(例如毛细管作用)。另外,用棉会损耗透气性与传热能力(正如实验室试验所证实的那样)以及可拉伸性。

[0059] 前面的说明中已连同结构细节与作用阐述了许多特征和优点。虽然已以若干形式公开了本发明,但所属领域技术人员会明白,其中可进行许多变更、增补和省却,特别是形状、尺码和组成部分的排列,而不会背离本发明的实质和范围,其等效替代物如所附权利要求书所述。因此,可由本说明书中技术活动规范建议的其他变更或实施例在属于所附权利要求书广度和范围内尤可备用。

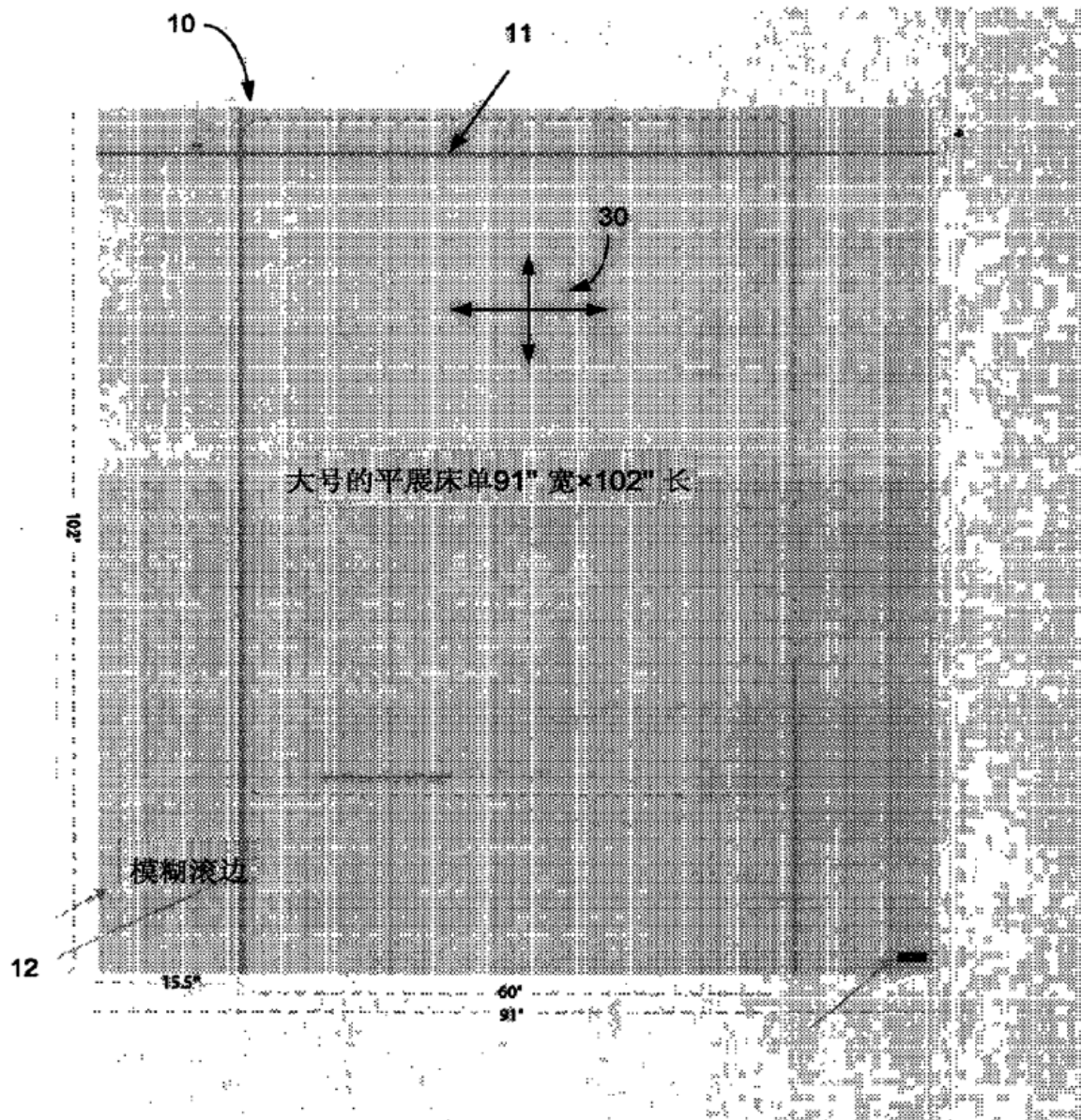


图 1

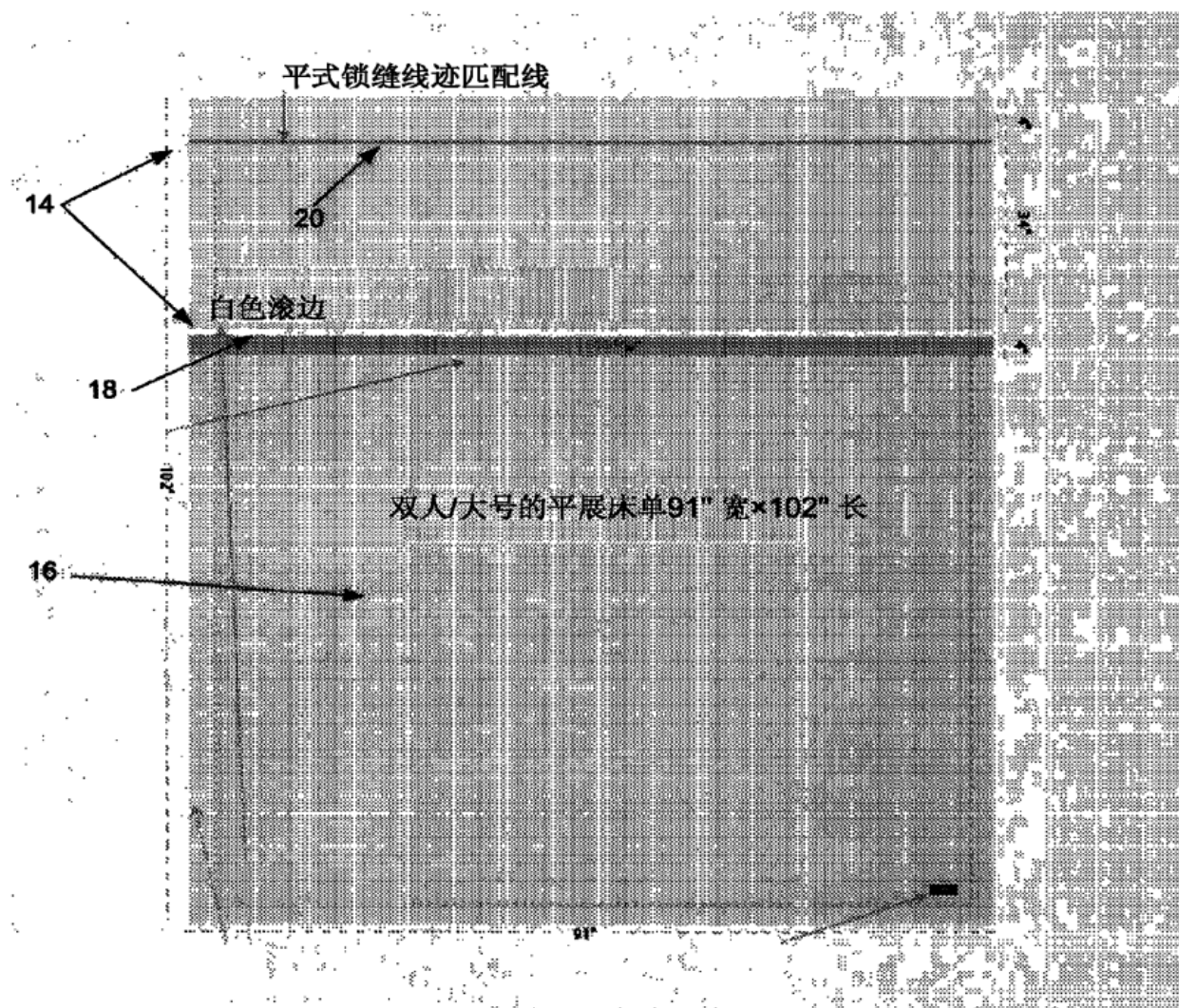


图 2

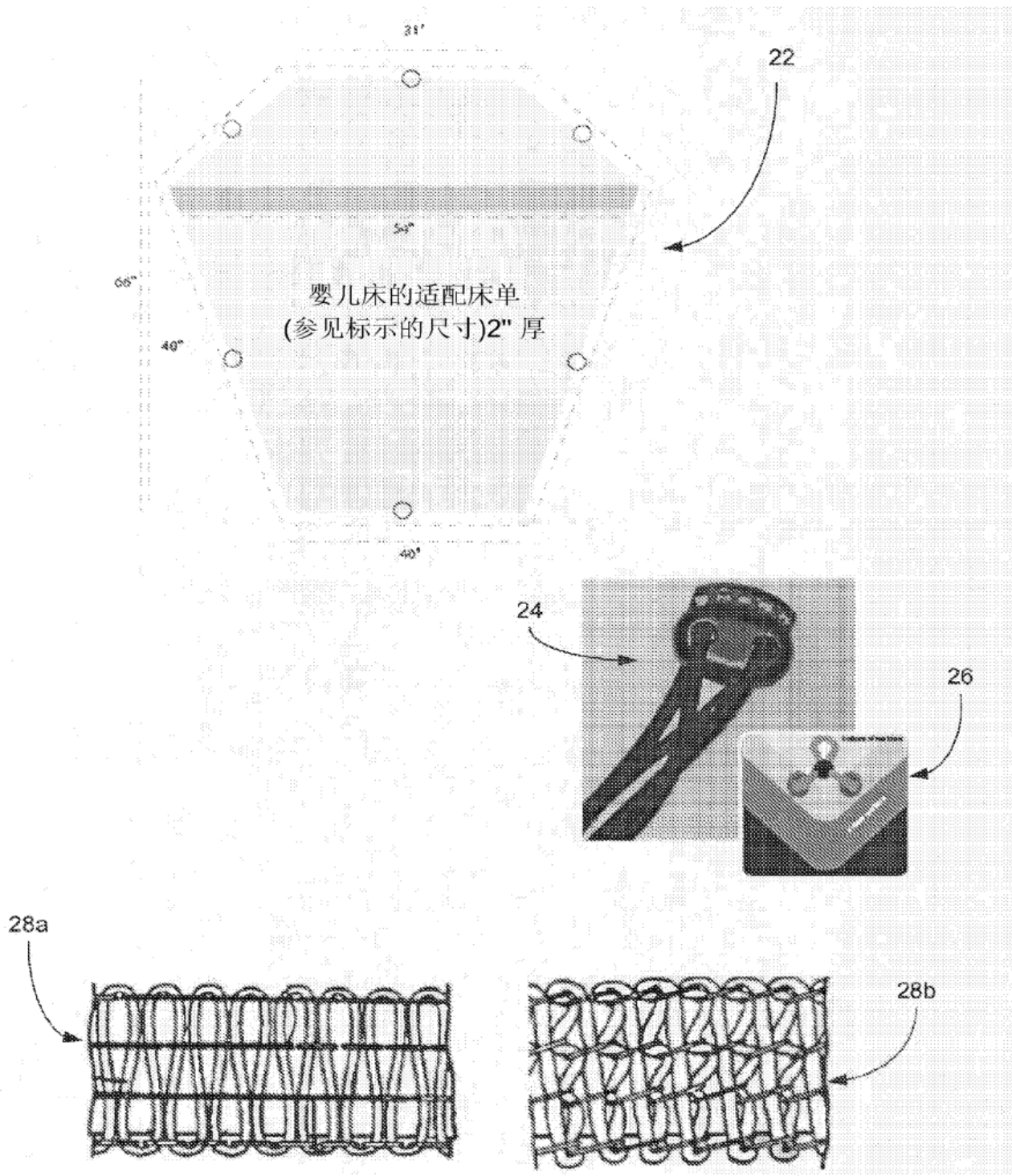


图 3

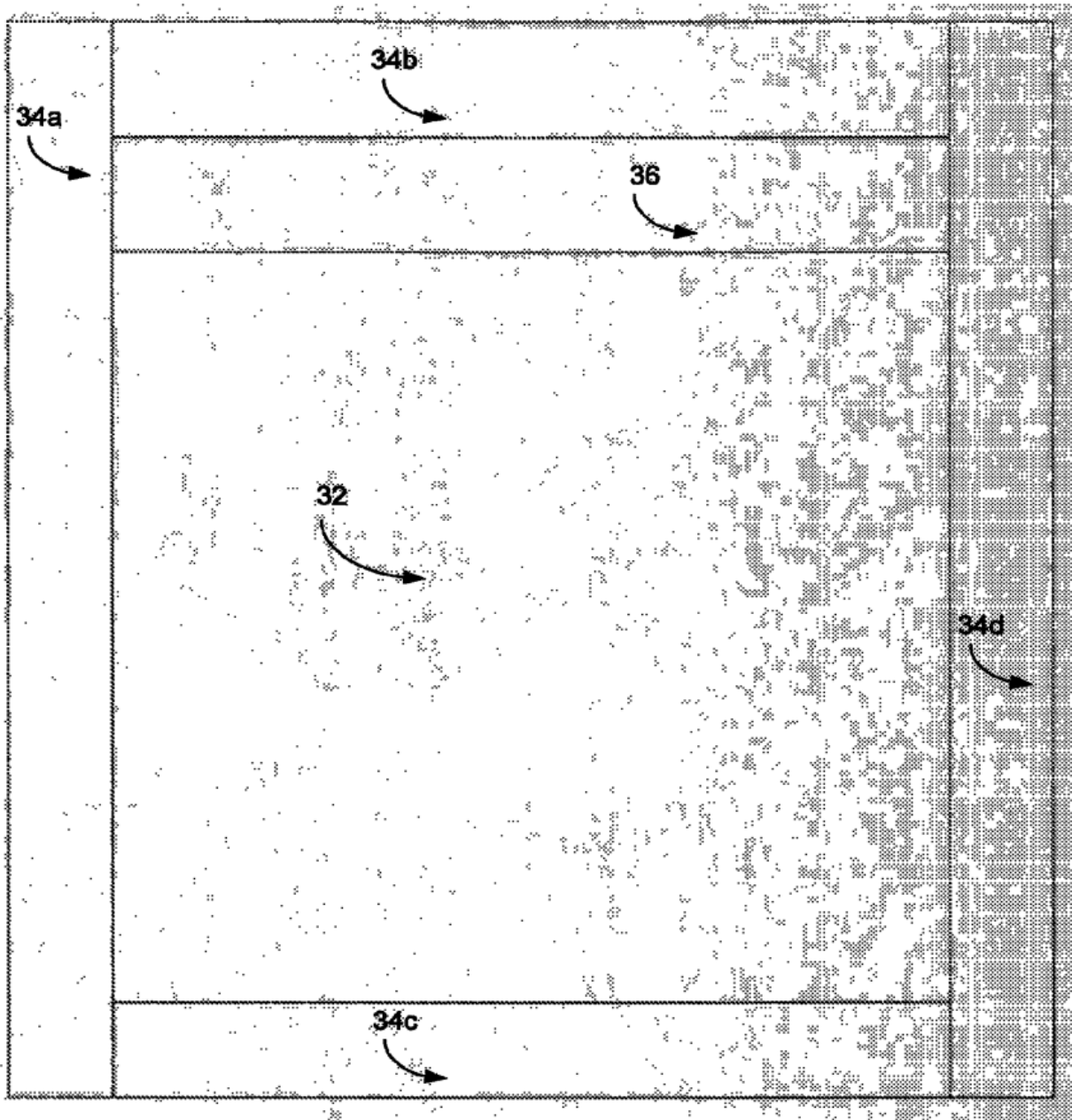


图 4