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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/798,242	07/08/2014	8771249	HAR-788C2	4782

42532 7590 06/18/2014
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Susanne Beckert, Ulm, GERMANY;
Ruediger Kesselmeier, Herbrechtingen, GERMANY;
PAUL HARTMANN AG, Heidenheim, GERMANY

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Attends Healthcare Products, Inc



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FORM PTO – 1449 INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761			
U.S. PATENT DOCUMENTS							
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A23	8,162,913	4/24/2012	Goates et al.			
	A24	8,216,414	7/10/2012	Hornung et al.			
	A25	2003/0125705	7/3/2003	Ruman			
	A26	2003/0119404	6/26/2003	Belau et al.			
	A27	2005/0003143	1/6/2005	Ducauchuis et al.			
	A28	2005/0256494	11/17/2005	Datta			
	A29	2005/0256496	11/17/2005	Bentning et al.			
	A30	2005/0261647	11/24/2005	Karami et al.			
	A31	2005/0261650	11/24/2005	Damagi et al.			
	A32	2005/191460	9/1/2005	Belau			
	A33	2006/0058772	3/16/2006	Karami			
	A34	2006/0282053	12/14/2006	Rohrl			
	A35	2008/0208152	8/28/2008	Eckstein et al.			
	A36	2006/0247596	11/02/2006	Van Dyke			
	A37	2007/0254158	11/1/2007	Bormann et al.			
	A38	2008/0026178	1/31/2008	Stupperich et al.			
	A39	2009/0069776	3/12/2009	Utsunomiya et al.			
	A40	4,663,220	5/5/1987	Wisneski et al.			
Change(s) applied to document				DATE CONSIDERED			
EXAMINER							

Change(s) applied to document
/E.M.S./
4/18/2014



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/798,242	03/13/2013	Susanne Beckert	HAR-788C2	4782

42532 7590 05/15/2014
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

EXAMINER

STEPHENS, JACQUELINE F

ART UNIT	PAPER NUMBER
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3761

NOTIFICATION DATE	DELIVERY MODE
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05/15/2014

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):

DocketingPatentBoston@proskauer.com
oandrews@proskauer.com

**UNITED STATES DEPARTMENT OF COMMERCE****U.S. Patent and Trademark Office**

Address : COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
13/798,242	13 March, 2013	BECKERT ET AL.	HAR-788C2

PROSKAUER ROSE LLP ONE INTERNATIONAL PLACE BOSTON, MA 02110		EXAMINER	
		JACQUELINE STEPHENS	
		ART UNIT	PAPER
		3761	20140512

DATE MAILED:

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

Commissioner for Patents

Considered and initialed IDS filed 4/1/14.

/JACQUELINE STEPHENS/
Primary Examiner, Art Unit 3761

FORM PTO – 1449 SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761					
U.S. PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE		
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
OTHER ART, JOURNAL ARTICLES, ETC.									
EXAM INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)								
/J.S./	C13	IPR2013-000173, Judgment: Termination of Proceeding (issued: March 26, 2014 by the Patent Trial and Appeal Board), Paper 44, relating to U.S. Patent No. 8,152,788 to Beckert et al., 3 pages.							
EXAMINER /Jacqueline Stephens/					DATE CONSIDERED 05/12/2014				

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

42532 7590 02/06/2014
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/798,242	03/13/2013	Susanne Beckert	HAR-788C2	4782

TITLE OF INVENTION: Absorbent incontinence article with improved closure system

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	05/06/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
STEPHENS, JACQUELINE F	3761	604-385270

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Proskauer Rose LLP

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

Paul Hartmann AG

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Heidenheim, Germany

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 50-3081 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Gerald E. Worth 45,238/

Date May 2, 2014

Typed or printed name Gerald E. Worth

Registration No. 45,238

Electronic Patent Application Fee Transmittal

Application Number:	13798242			
Filing Date:	13-Mar-2013			
Title of Invention:	Absorbent incontinence article with improved closure system			
First Named Inventor/Applicant Name:	Susanne Beckert			
Filer:	Gerald E. Worth			
Attorney Docket Number:	HAR-788C2			
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:				
Utility Appl Issue Fee	1501	1	960	960
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				960

Electronic Acknowledgement Receipt

EFS ID:	18893353
Application Number:	13798242
International Application Number:	
Confirmation Number:	4782
Title of Invention:	Absorbent incontinence article with improved closure system
First Named Inventor/Applicant Name:	Susanne Beckert
Customer Number:	42532
Filer:	Gerald E. Worth
Filer Authorized By:	
Attorney Docket Number:	HAR-788C2
Receipt Date:	02-MAY-2014
Filing Date:	13-MAR-2013
Time Stamp:	14:15:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$960
RAM confirmation Number	459
Deposit Account	503081
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

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

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	HAR788C2_Issue_Fee_Payment.pdf	1094833 b95f62d55b0ae8a677bfe731bc12cd77bbd6d96	no	1

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30439 3b15893396bf5e9403fd6065ff952a47abecad03	no	2
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Warnings:

Information:

Total Files Size (in bytes):			1125272
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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.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/798,242	03/13/2013	Susanne Beckett	HAR-788C2	4782

EXAMINER	
STEPHENS, JACQUELINE F	

ART UNIT	PAPER NUMBER
3761	

7590 04/17/2014
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

DATE MAILED: 04/17/2014

PRIORITY ACKNOWLEDGMENT

- ☒ 1. Receipt is acknowledged of priority papers submitted under 35 U.S.C. 119. The papers have been placed of record in the file.
- ☐ 2. Applicant's claim for priority, based on papers filed in parent Application Number _____ submitted under 35 U.S.C. 119, is acknowledged.
- ☐ 3. The priority papers, submitted _____, after payment of the issue fee are
- ☐ acknowledged
While the priority claim or certified copy filed will be placed in the file record, neither will be reviewed and the patent when published will not include the priority claim.
See 37 CFR 1.55(a)(2).
 - ☐ not acknowledged since the processing fee in 37 CFR 1.17(i) has not been received.
- ☐ 4. For utility and plant applications filed on or after November 29, 2000, the priority claim is not entered because the claim was not presented within the time limit required by 37 CFR 1.55(a)(1). A petition to accept a delayed claim for priority under 35 U.S.C. 119(a) - (d) or (f), or 365(a) may be filed. See 37 CFR 1.55(c) and MPEP 201.14(a).

Mideig FOR!

571-272-4200 or 1-888-786-0101
Application Assistance Unit
Office of Data Management

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Beckert <i>et al.</i>	GROUP NO.:	3761
APPLICATION NO.:	13/798,242	EXAMINER:	Stephens, Jacqueline F.
FILING DATE:	March 13, 2013	CONF. NO.:	4782
TITLE:	Absorbent Incontinence Article with Improved Closure System		

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

SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Madam:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. In accordance with § 37 C.F.R. 1.98, only a copy of the non-patent publication is enclosed.

Submission of any document(s), publication(s) or reference(s) herewith does not imply concession by Applicant(s) to any characterization of the document(s), publication(s) or reference(s) (including any statements therein), and no such concession is made.

REMARKS

In accordance with the provisions of 37 C.F.R., this statement is being filed (check one)

- ☐ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or

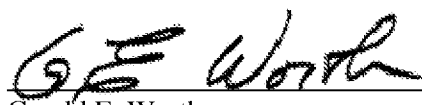
- ☐ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**
- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or
- ☒ (3) after the mailing date of a final action or notice of allowance but on or before the payment of the issue fee, **AND**
- ☒ the requisite Statement is below, **AND**
- ☒ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein.

STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that:

- ☐ 1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or
- ☒ 2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

Respectfully submitted,


Gerald E. Worth
Proskauer Rose LLP
Attorney for Applicants
One International Place
Boston, MA 02110

Date: April 1, 2014
Reg. No.: 45,238

Tel. No.: (617) 526-9626
Fax No.: (617) 526-9899

Electronic Patent Application Fee Transmittal

Application Number:	13798242			
Filing Date:	13-Mar-2013			
Title of Invention:	Absorbent incontinence article with improved closure system			
First Named Inventor/Applicant Name:	Susanne Beckert			
Filer:	Gerald E. Worth			
Attorney Docket Number:	HAR-788C2			
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:	18636755
Application Number:	13798242
International Application Number:	
Confirmation Number:	4782
Title of Invention:	Absorbent incontinence article with improved closure system
First Named Inventor/Applicant Name:	Susanne Beckert
Customer Number:	42532
Filer:	Gerald E. Worth
Filer Authorized By:	
Attorney Docket Number:	HAR-788C2
Receipt Date:	01-APR-2014
Filing Date:	13-MAR-2013
Time Stamp:	15:28:30
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	1794
Deposit Account	503081
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

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

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	HAR788C2_Transmittal.pdf	263432	no	2
			25f3e4d345b49d6971f62bf35208987e20fb895b		
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	HAR788C2_1449.pdf	23352	no	1
			1340fcb6b34781c2df142b7d78478db6552f072d		
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Non Patent Literature	HAR788C2_C13.pdf	95336	no	3
			41ada6d94bbe12220c0c18f61c9f718186b29026		
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
4	Information Disclosure Statement (IDS) Form (SB08)	HAR788C2_Second_SIDS.pdf	36554	no	2
			64617b492552bffdcb4a6ac8e4006aa1538c841c		
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
5	Fee Worksheet (SB06)	fee-info.pdf	30360	no	2
			5cc5fbd2003ab4fbc404b351d86eb83c1997c320		
Warnings:					
Information:					
Total Files Size (in bytes):			449034		

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.

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	13/798,242	
	Filing Date	March 13, 2013	
	First Named Inventor	Beckert	
	Art Unit	3761	
	Examiner Name	Stephens, Jacqueline F.	
Total Number of Pages in This Submission	8	Attorney Docket Number	HAR-788G2

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): - Form PTO 1449 - Reference C13
Remarks The Director is hereby authorized to charge any fee due upon submission of this mailing to Deposit Account No. 50-3081.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	Proskauer Rose LLP		
Signature	/Gerald E. Worth 45,238/		
Printed name	Gerald E. Worth		
Date	April 1, 2014	Reg. No.	45,238

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. 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 1.11 and 1.14. This collection is estimated to 2 hours 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.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

FORM PTO – 1449 SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761					
U.S. PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE		
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
OTHER ART, JOURNAL ARTICLES, ETC.									
EXAM INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)								
	C13	IPR2013-000173, Judgment: Termination of Proceeding (issued: March 26, 2014 by the Patent Trial and Appeal Board), Paper 44, relating to U.S. Patent No. 8,152,788 to Beckert et al., 3 pages.							
EXAMINER					DATE CONSIDERED				



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

NOTICE OF ALLOWANCE AND FEE(S) DUE

42532 7590 02/06/2014
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

EXAMINER

STEPHENS, JACQUELINE F

ART UNIT

PAPER NUMBER

3761

DATE MAILED: 02/06/2014

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/798,242

03/13/2013

Susanne Beckert

HAR-788C2

4782

TITLE OF INVENTION: Absorbent incontinence article with improved closure system

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	05/06/2014

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

42532 7590 02/06/2014
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/798,242	03/13/2013	Susanne Beckert	HAR-788C2	4782

TITLE OF INVENTION: Absorbent incontinence article with improved closure system

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	05/06/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
STEPHENS, JACQUELINE F	3761	604-385270

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	2. For printing on the patent front page, list (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____ (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____ 3 _____
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted: <input type="checkbox"/> Issue Fee <input type="checkbox"/> Publication Fee (No small entity discount permitted) <input type="checkbox"/> Advance Order - # of Copies _____	4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) <input type="checkbox"/> A check is enclosed. <input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached. <input type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).
---	---

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



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.
13/798,242	03/13/2013	Susanne Beckert	HAR-788C2	4782

42532 7590 02/06/2014
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

EXAMINER

STEPHENS, JACQUELINE F

ART UNIT	PAPER NUMBER
----------	--------------

3761

DATE MAILED: 02/06/2014

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. 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.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/798,242	Applicant(s) BECKERT ET AL.	
	Examiner JACQUELINE STEPHENS	Art Unit 3761	AIA (First Inventor to File) Status No

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 11/22/13.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ 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.
3. ☒ The allowed claim(s) is/are 1-54. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Interim copies:

- a) ☐ All b) ☐ Some c) ☐ None of the: Interim copies of the priority documents have been received.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Examiner's Amendment/Comment |
| 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>11/19/13, 12/20/13</u> | 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. <input type="checkbox"/> Other _____. |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

/JACQUELINE STEPHENS/
Primary Examiner, Art Unit 3761

EAST Search History


EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3725	(604/385.24,385.26,385.28,,385.3,385.03,367).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/12/02 12:58
L2	338	l1 and @pd>"20130702"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/12/02 12:58
L3	1	l2 and (retaining same force)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/12/02 13:00
L4	0	(absorbent and chassis and first and second and third and fourth and ear and separate and component and retaining and forces).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/12/02 13:02

12/ 2/ 2013 1:03:55 PM

C:\ Users\jstephens1\ Documents\ Prior art searches\ Elastic Components\ 13798242.wsp

FORM PTO – 1449 SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761					
U.S. PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE		
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
OTHER ART, JOURNAL ARTICLES, ETC.									
EXAM INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)								
/J.S./	C12	Petitioner's Reply to Patent Owner's Response including Exhibits 1021 through 1031, filed in IPR2013-000173, December 19, 2013, 497 pages							
EXAMINER /Jacqueline Stephens/					DATE CONSIDERED 01/09/2014				

Issue Classification 	Application/Control No.		Applicant(s)/Patent under Reexamination	
	13/798,242		BECKERT ET AL.	
	Examiner		Art Unit	
	JACQUELINE STEPHENS		3761	

ISSUE CLASSIFICATION											
ORIGINAL					CROSS REFERENCE(S)						
CLASS		SUBCLASS			CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					
604		385.27			604	385.26	385.36	385.03	367		
INTERNATIONAL CLASSIFICATION											
A	6	1	F	13/15							
				/							
				/							
				/							
				/							
(Assistant Examiner) (Date)					/Jacqueline F. Stephens/ 12/2/13					Total Claims Allowed: 54	
(Legal Instruments Examiner) (Date)										O.G. Print Claim(s) 1	

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant										<input type="checkbox"/> CPA		<input checked="" type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	48	31		61		91		121		151		181		
2	2	43	32		62		92		122		152		182		
16	3	44	33		63		93		123		153		183		
3	4	36	34		64		94		124		154		184		
25	5	50	35		65		95		125		155		185		
4	6	37	36		66		96		126		156		186		
5	7	51	37		67		97		127		157		187		
6	8	52	38		68		98		128		158		188		
7	9	31	39		69		99		129		159		189		
17	10	13	40		70		100		130		160		190		
8	11	14	41		71		101		131		161		191		
18	12	32	42		72		102		132		162		192		
9	13	15	43		73		103		133		163		193		
10	14	11	44		74		104		134		164		194		
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26	21	41	51		81		111		141		171		201		
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28	23	38	53		83		113		143		173		203		
29	24	42	54		84		114		144		174		204		
30	25		55		85		115		145		175		205		
34	26		56		86		116		146		176		206		
35	27		57		87		117		147		177		207		
45	28		58		88		118		148		178		208		
46	29		59		89		119		149		179		209		
47	30		60		90		120		150		180		210		



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BIB DATA SHEET

CONFIRMATION NO. 4782

SERIAL NUMBER 13/798,242	FILING or 371(c) DATE 03/13/2013 RULE	CLASS 604	GROUP ART UNIT 3761	ATTORNEY DOCKET NO. HAR-788C2	
APPLICANTS PAUL HARTMANN AG, Heidenheim, GERMANY INVENTORS Susanne Beckert, Ulm, GERMANY; Ruediger Kesselmeier, Herbrechtingen, GERMANY; ** CONTINUING DATA ***** This application is a CON of 13/404,019 02/24/2012 which is a CON of 12/446,586 04/22/2009 PAT 8152788 which is a 371 of PCT/EP07/09030 10/18/2007 ** FOREIGN APPLICATIONS ***** EUROPEAN PATENT OFFICE (EPO) 06022450.8 10/27/2006 ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 04/16/2013					
Foreign Priority claimed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 35 USC 119(a-d) conditions met <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Verified and /JACQUELINE F STEPHENS/ Acknowledged Examiner's Signature	<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY GERMANY	SHEETS DRAWINGS 9	TOTAL CLAIMS 38	INDEPENDENT CLAIMS 2
ADDRESS PROSKAUER ROSE LLP ONE INTERNATIONAL PLACE BOSTON, MA 02110 UNITED STATES					
TITLE Absorbent incontinence article with improved closure system					
FILING FEE RECEIVED 3786	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

Search Notes

Application/Control No.

13/798,242

Examiner

JACQUELINE STEPHENS

Applicant(s)/Patent under
Reexamination

BECKERT ET AL.

Art Unit

3761

SEARCHED

Class	Subclass	Date	Examiner
604	385.24	7/2/2013	JFS
	385.26		
	385.28		
	385.3		
	385.03		
	367		
updated	above	12/2/2013	JFS
up			

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner
Interference search history attached		12/2/2013	JFS

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
East	7/2/2013	JFS
updated East search	12/2/2013	JFS

FORM PTO – 1449				ATTY DOCKET NO.: HAR-788C2			
INFORMATION DISCLOSURE STATEMENT				APPLICANTS: Beckert <i>et al.</i>			
				APPLICATION NO.: 13/798,242			
				FILING DATE: March 13, 2013			
				GROUP: 3761			
U.S. PATENT DOCUMENTS							
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A1	4,084,592	4/18/1978	Tritsch			
	A2	5,246,431	09/21/1993	Minetola et al.			
	A3	5,549,592	8/27/1996	Fries et al.			
	A4	5,549,777	8/27/1996	Langdon et al.			
	A5	5,628,737	5/13/1997	Dorbin et al.			
	A6	5,685,873	11/11/1997	Bruemmer			
	A7	5,897,545	4/27/1999	Kline			
	A8	5,904,793	5/18/1999	Gorman et al.			
	A9	6,218,593	4/17/2001	Torimae et al.			
	A10	6,402,730	6/11/2002	Malowaniec			
	A11	6,461,343	10/8/2002	Schaefer et al.			
	A12	6,524,294	2/25/2003	Hilston et al.			
	A13	6,548,147	4/15/2003	Raidel et al.			
	A14	6,582,543	6/24/2003	Nilsson et al.			
	A15	6,626,881	9/30/2003	Shingu et al.			
	A16	6,332,250	12/25/2001	Igaue et al.			
	A17	6,701,580	3/9/2004	Bandyopadhyay			
	A18	6,840,930	1/11/2005	Miyamoto et al.			
	A19	6,878,223	4/12/2005	Kuen et al.			
	A20	6,936,129	8/30/2005	Karami et al.			
	A21	7,482,505	1/27/2009	Stupperich et al.			
	A22	8,152,788	4/10/2012	Beckert et al.			

FORM PTO – 1449 INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761			
U.S. PATENT DOCUMENTS							
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A23	8,162,913	4/24/2012	Goates et al.			
	A24	8,216,414	7/10/2012	Hornung et al.			
	A25	2003/0125705	7/3/2003	Ruman			
	A26	2003/0119404	6/26/2003	Belau et al.			
	A27	2005/0003143	1/6/2005	Ducauchuis et al.			
	A28	2005/0256494	11/17/2005	Datta			
	A29	2005/0256496	11/17/2005	Bentning et al.			
	A30	2005/0261647	11/24/2005	Karami et al.			
	A31	2005/0261650	11/24/2005	Damagi et al.			
	A32	2005/191460	9/1/2005	Belau			
	A33	2006/0058772	3/16/2006	Karami			
	A34	2006/0282053	12/14/2006	Rohrl			
	A35	2008/0208152	8/28/2008	Eckstein et al.			
	A36	2006/0247596	11/02/2006	Van Dyke			
	A37	2007/0254158	11/1/2007	Bormann et al.			
	A38	2008/0026178	1/31/2008	Stupperich et al.			
	A39	2009/0069776	3/12/2009	Utsunomiya et al.			
	A40	4,663,220	5/5/97	Wisneski et al.			
EXAMINER				DATE CONSIDERED			

FORM PTO – 1449				ATTY DOCKET NO.: HAR-788C2					
INFORMATION DISCLOSURE STATEMENT				APPLICANTS: Beckert <i>et al.</i>					
				APPLICATION NO.: 13/798,242					
				FILING DATE: March 13, 2013					
				GROUP: 3761					
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
	B1	10 2004 021353	11/10/2005	DE				N	Y Abstract Only
	B2	10 2004 053469	5/4/2006	DE				N	Y Abstract Only
	B3	0 800 808	10/15/1997	EP				N	Y
	B4	1 048 236	11/2/2000	EP				N	Y
	B5	1 915 977	4/30/2008	EP				N	Y Abstract Only
	B6	2000-270908	10/3/2000	JP				N	Y Abstract Only
	B7	2000-513644	10/17/2000	JP				N	Y Abstract Only
	B8	2005-514530	5/19/2005	JP				N	Y Abstract Only
	B9	2005-537039	12/8/2005	JP				N	Y Abstract Only
	B10	2006-187646	7/20/2006	JP				N	Y Abstract Only
	B11	2006-508870	3/16/2006	JP				N	Y Abstract Only
	B12	2007-268220	10/18/2007	JP				N	Y Abstract Only
	B13	09-173382	7/8/1997	JP				N	Y Abstract Only
	B14	09-509901	10/7/1997	JP				N	Y Abstract Only
	B15	99/037263	7/29/1999	WO				N	Y
EXAMINER					DATE CONSIDERED				

FORM PTO – 1449 INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761					
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRAC T ONLY	ENGLISH LANG (Y/N)
	B16	2004/105668	12/9/2004	WO				N	Y Abstract Only
	B17	2005/102241	11/3/2005	WO				N	Y Abstract Only
	B18	2006/048173	5/11/2006	WO				N	Y Abstract Only
	B19	2008/049546	5/2/2008	WO				N	Y Abstract Only
	B20	10 2004 042405	3/30/2006	DE				N	Y Abstract Only
	B21	0 882 828	12/9/1998	EP				N	Y Abstract Only
	B22	03/082167	10/9/2003	WO				N	Y
	B23	ITTO 20030113 A1	05/19/2003	IT				N	Y
	B24	2007/001815	01/04/2007	WO				N	Y
	B25	1 655 006 B1	05/10/2006	EP				N	Y
OTHER ART, JOURNAL ARTICLES, ETC.									
EXAM INIT.		OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)							
	C1	Petition for Inter Partes Review of U.S. Patent No. 8,152,788 Patent filed on February 28, 2013, 65 pages, IPR2013-00173.							
	C2	IPR2013-000173, Exhibit 1004 submitted with Petition (February 28, 2013), File History of U.S. Patent No. 8,152,788 to Beckert et al.							
	C3	IPR2013-000173, Exhibit 1018 submitted with Petition (February 28, 2013), Declaration under 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42 of Arrigo D. Jezzi Supporting the Invalidity of U.S. Patent No. 8,152,788.							
	C4	Medline Industries, Inc. v. Paul Hartmann AG, United States District Court Northern District of Illinois, Case No. 1:13-cv-01623 Complaint for Declaratory Relief filed March 1, 2013; 27 pages.							
EXAMINER /Jacqueline Stephens/				DATE CONSIDERED 12/02/2013					

FORM PTO – 1449		ATTY DOCKET NO.: HAR-788C2
INFORMATION DISCLOSURE STATEMENT		APPLICANTS: Beckert <i>et al.</i>
		APPLICATION NO.: 13/798,242
		FILING DATE: March 13, 2013
		GROUP: 3761
OTHER ART, JOURNAL ARTICLES, ETC.		
EXAM INIT.		OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)
	C5	Medline Industries, Inc. v. Paul Hartmann AG, United States District Court Northern District of Illinois, Civil Docket for Case No. 1:13-cv-01623, generated date November 19, 2013, 2 pages.
	C6	IPR2013-00173, Decision: Institution of Inter Partes Review under 37 C.F.R. § 42.108 (issued Jun 20, 2013 by Patent Trial and Appeal Board), Paper 17, relating to U.S. Patent No. 8,152,788 to Beckert et al.
	C7	EPO Office Action in EP Appl. No. 07819098 citing Van Gompel, August 27, 2013, 5 pages (in German).
	C8	Patent Owner's Response with Exhibits, filed in IPR2013-00173, September 19, 2013, 490 pages.
	C9	Declaration of Andrew Urban III, with Exhibits, September 19, 2013, 63 pages.
	C10	Videotaped Deposition of Andrew Urban III, with Exhibits, November 7, 2013, 472 pages.
	C11	EPO Office Action in EP Appl. No. 06022450 citing Van Gompel, August 27, 2013, 7 pages (in German).
EXAMINER	/Jacqueline Stephens/	
	DATE CONSIDERED	12/02/2013

FORM PTO – 1449 SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761					
U.S. PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE		
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
OTHER ART, JOURNAL ARTICLES, ETC.									
EXAM INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)								
	C12	Petitioner's Reply to Patent Owner's Response including Exhibits 1021 through 1031, filed in IPR2013-000173, December 19, 2013, 497 pages							
EXAMINER					DATE CONSIDERED				

Electronic Patent Application Fee Transmittal

Application Number:	13798242			
Filing Date:	13-Mar-2013			
Title of Invention:	Absorbent incontinence article with improved closure system			
First Named Inventor/Applicant Name:	Susanne Beckert			
Filer:	Gerald E. Worth/Debra Gilbride			
Attorney Docket Number:	HAR-788C2			
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:	17726141
Application Number:	13798242
International Application Number:	
Confirmation Number:	4782
Title of Invention:	Absorbent incontinence article with improved closure system
First Named Inventor/Applicant Name:	Susanne Beckert
Customer Number:	42532
Filer:	Gerald E. Worth
Filer Authorized By:	
Attorney Docket Number:	HAR-788C2
Receipt Date:	20-DEC-2013
Filing Date:	13-MAR-2013
Time Stamp:	15:46:17
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	5506
Deposit Account	503081
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	HAR-788C2_Transmittal.pdf	263454	no	2
			6e865698550854a936f097cc386e3ea647fc2843		
Warnings:					
Information:					
2	Transmittal Letter	HAR-788C2_SIDS.pdf	90535	no	2
			0161de38d48e3f95ff0ba5c7b4589bce8fc1a249		
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	HAR-788C2_1449.pdf	23026	no	1
			28702ef13ce07466bc39bf8f158bee47a2ced1cc		
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
4	Non Patent Literature	C12.pdf	13432674	no	497
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Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30398	no	2
			876ed5ac7c159f9df4bcceba498a4de8a8fb5429		
Warnings:					
Information:					
Total Files Size (in bytes):			13840087		

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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.

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	13/798,242
	Filing Date	March 13, 2013
	First Named Inventor	Beckert
	Art Unit	3761
	Examiner Name	Stephens, Jacqueline F.
Total Number of Pages in This Submission	Attorney Docket Number	HAR-788C2

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): - Form PTO – 1449 - Reference C12
Remarks The Director is hereby authorized to charge any fee due upon submission of this mailing to Deposit Account No. 50-3081.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	Proskauer Rose LLP		
Signature	/Gerald E. Worth 45,238/		
Printed name	Gerald E. Worth		
Date	December 20, 2013	Reg. No.	45,238

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
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This collection of information is required by 37 CFR 1.5. 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 1.11 and 1.14. This collection is estimated to 2 hours 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.**

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4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Beckert <i>et al.</i>	GROUP NO.:	3761
APPLICATION NO.:	13/798,242	EXAMINER:	Stephens, Jacqueline F.
FILING DATE:	March 13, 2013	CONF. NO.:	4782
TITLE:	Absorbent Incontinence Article with Improved Closure System		

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

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Madam:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. In accordance with § 37 C.F.R. 1.98, only copies of the foreign patent documents and non-patent publications are enclosed.

Submission of any document(s), publication(s) or reference(s) herewith does not imply concession by Applicant(s) to any characterization of the document(s), publication(s) or reference(s) (including any statements therein), and no such concession is made.

REMARKS

In accordance with the provisions of 37 C.F.R., this statement is being filed (check one)

- ☐ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or

- ☒ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**
- ☒ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or
- ☐ (3) after the mailing date of a final action or notice of allowance but on or before the payment of the issue fee, **AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein.

STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that:


- ☐ 1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or
- ☐ 2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

Respectfully submitted,



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Application Number 	Application/Control No. 13/798,242	Applicant(s)/Patent under Reexamination BECKERT ET AL.	
Document Code - DISQ		Internal Document – DO NOT MAIL	

TERMINAL DISCLAIMER	<input checked="" type="checkbox"/> APPROVED	<input type="checkbox"/> DISAPPROVED
Date Filed : 11/22/13	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

ANDRE ROBINSON
2 TDS WERE APPRVD.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:
Susanne BECKERT et al.

Application No.: 13/798,242

Filed: March 13, 2013

For: Absorbent Incontinence Article with
Improved Closure System

Group Art Unit: **3761**

Confirmation No.: **4782**

Examiner: Jacqueline F. STEPHENS

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

**RECORD OF SUBSTANCE OF INTERVIEW AND
AMENDMENT UNDER CFR § 1.111**

Sir:

Applicants submit this paper in response to the Office Action dated July 2, 2013. Please amend the above-identified application as set forth below. The Commissioner is authorized to charge the excess claim fees, terminal disclaimer fees, extension of time fees and any additional fees that may be required in connection with this paper to Deposit Account No. 50-3081.

A Record of Substance of Interview begins on page 2 of this paper.

Amendments to the Specification begin on page 4 of this paper.

Amendments to the Claims are reflected in the listing of claims that begin on page 5 of this paper.

Applicants' **Remarks** begin on page 16 of this paper.

Record of Substance of Interview

The Applicants thank Examiner Stephens for the courtesy and effort in meeting with the Applicants' representatives on November 8, 2013. Pursuant to M.P.E.P § 713.04, the Applicants hereby make the following statement describing the substance of an in-person interview that occurred on November 8, 2013 in the above-identified application.

Examiner Jacqueline F. Stephens, Anthony Coles (Reg. No. 34,139), and Dr. Eckhard Oltmann, of Paul Hartman AG, the assignee of the application, participated in the interview.

Dr. Oltmann presented a MoliCare Premium Soft Extra diaper. Claim 1 was discussed. The following references were also discussed:

- 1) WO 2007/001815 to Van Gompel;
- 2) U.S. Patent Publication 2003/0125705 to Ruman et al.; and
- 3) U.S. Patent 5,897,545 to Kline et al.

Mr. Coles explained that the Van Gompel reference was cited in two European counterparts to this patent application. The Ruman and Kline references were cited by Examiner Stephens in the Office Action of related patent application 13/404,019.

Mr. Coles and Dr. Oltmann explained that none of these references alone, or in combination, teach or suggest at least the following claim limitations found in amended claim 1 as proposed at the interview:

said closure means having mechanical closure aids for correctly securing the diaper on the body of a user, said closure means being structured and dimensioned for selective detachable fastening to either said outer face of said main part ~~and~~ or to said outer face of said side parts in said front area, wherein retaining forces between said mechanical closure means and said outer face of said main part are sufficient to secure said diaper on the user body, when in use, and are lower than retaining forces between said mechanical closure means and said outer face of said side parts in said front area.

Application No. 13/798,242
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(in response to the Office Action dated July 2, 2013)

Possible amendments to claim 1 were discussed.

No agreement was reached.

Application No. 13/798,242
Amdt. Dated November 22, 2013
(in response to the Office Action dated July 2, 2013)

Amendments to the Specification:

¶ 0011 change “90-58 N/mm” to – 90-58 N/25mm–; and

¶ 0106, change “30-g/mm²” to – 30-g/m² –.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please amend claims 1-26 and 28-38. Please add new claims 39 through 54.

Listing of Claims:

1. (Amended) An absorbent incontinence diaper for an adult user, comprising:
a ~~main-part~~ chassis having an inner face which, when in use, is directed toward a user body and an outer face which, when in use, is directed away from the user body, said ~~main-part~~ chassis having an ~~absorption~~ absorbent body and a backsheet on a side of said ~~absorption~~ absorbent body which, when in use, is directed away from the user body, said ~~absorption~~ absorbent body having a smaller width than said backsheet, said ~~main-part~~ chassis also having a rear area, a front area, and a crotch area lying between said rear area and said front area, said ~~main-part~~ chassis further defining first and second side edges;
~~and~~
~~side parts joined to said first and said second side edges, said side parts having an inner face and an outer face, wherein the incontinence diaper has four discrete, not directly connected side parts, with one side part being attached to each of two side edges of said front area and a further side part being attached to each of two side edges of said rear area,~~
a first ear attached as a separate component to said first side edge in said front area;
a second ear attached as a separate component to said second edge in said front area;
a third ear attached as a separate component to said first side edge in said rear area;
a fourth ear attached as a separate component to said second side edge in said rear area;

said third and fourth ears side parts of said rear area having mechanical closure means,
~~said closure means~~ having a closure component including mechanical closure aids for
~~correctly securing~~ which, when in use, hold the diaper on the user body of a user, when
said closure component ~~means being structured and dimensioned for detachable fastening~~
is selectively fastened to either said outer face of said chassis main part ~~and~~ or to said
outer face of said first and second ears side parts in said front area;

wherein retaining forces between said ~~mechanical closure means~~ component and said
outer face of said ~~main part~~ chassis are lower than retaining forces between said
~~mechanical closure means~~ component and said outer face of said first and second ears
~~side parts in said front area~~.

2. (Amended) The absorbent incontinence diaper for an adult user of claim 1, wherein said
retaining forces are determined as over-abdomen retaining forces.

3. (Amended) The absorbent incontinence diaper for an adult user of claim 1, wherein said
retaining forces, determined as over-abdomen retaining forces between said closure component
~~means having said mechanical closure aids~~ and said outer face of said chassis main part, are 57-
20 N/25 mm ~~or 50-25 N/25 mm~~.

4. (Amended) The absorbent incontinence diaper for an adult user of claim 2, wherein said
retaining forces, determined as over-abdomen retaining forces between said closure component
~~means having said mechanical closure aids~~ and said outer face of said ~~main part~~ chassis, are 57-
20 N/25 mm ~~or 50-25 N/25 mm~~.

5. (Amended) The absorbent incontinence diaper for an adult user of claim 1, wherein said
retaining forces, determined as over-abdomen retaining forces between said closure component
~~means having said mechanical closure aids~~ and said outer face of said first and second ears side
~~parts in said front area~~, are 90-58 N/25 mm ~~or 80-60 N/25 mm~~.

6. (Amended) The absorbent incontinence diaper for an adult user of claim ~~2~~ 4, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component ~~means having said mechanical closure aids~~ and said outer face of said first and second ears ~~side parts in said front area~~, are 90-58 N/25 mm ~~or 80-60 N/25 mm~~.

7. (Amended) The absorbent incontinence diaper for an adult user of claim ~~1~~ 4, wherein said mechanical closure aids comprise hooks of a hook-and-loop fastener.

8. (Amended) The absorbent incontinence diaper for an adult user of claim 7, wherein ~~at least one~~ said closure component ~~means also~~ comprises an adhesive closure aid ~~or a pressure-sensitive adhesive region~~.

9. (Amended) The absorbent incontinence diaper for an adult user of claim ~~2~~ 4, wherein at least a portion ~~portions or an entire area~~ of said outer face of said chassis ~~main part~~ is constituted by a chassis nonwoven material.

10. (Amended) The absorbent incontinence diaper for an adult user of claim ~~1~~ 3, wherein said backsheet is constituted by a nonwoven-foil laminate, wherein outside nonwoven material and inside foils seat facing said absorbent body, wherein said outside nonwoven material constitutes an outer face of said chassis ~~main part~~.

11. (Amended) The absorbent incontinence diaper for an adult user of claim 9, wherein said chassis nonwoven material has a mass per unit area of 10-30 g/m², ~~14-25 g/m² or 18-22 g/m²~~.

12. (Amended) The absorbent incontinence diaper for an adult user of claim 10, wherein said foil is constituted by a breathable ~~one or multi-layer~~ foil that is impermeable to liquids, said foil having at least one layer.

13. (Amended) The absorbent incontinence diaper for an adult user of claim 9, wherein said chassis nonwoven material ~~or a nonwoven foil laminate~~ is subjected to temperature treatment above 60° C to improve said over-abdomen retaining forces.

14. (Amended) The absorbent incontinence diaper for an adult user of claim 9, wherein said chassis nonwoven material ~~or a nonwoven foil laminate~~ is subjected to ring-rolling to improve said over-abdomen retaining forces.

15. (Amended) The absorbent incontinence diaper for an adult user of claim 1 ~~3~~, wherein said outer faces of said first and second ears ~~side parts in said front and/or said rear area~~ are constituted by a an ear nonwoven material.

16. (Amended) The absorbent incontinence diaper for an adult user of claim 15, wherein at least portions ~~or an entire area~~ of said outer face of said chassis ~~main part is~~ are constituted by a chassis nonwoven material and a mass per unit area of said ear nonwoven material ~~of said side parts in said front and/or said rear area~~ is greater than a mass per unit area of said chassis nonwoven material ~~of said outer face of said backsheet~~.

17. (Amended) The absorbent incontinence diaper for an adult user of claim 16, wherein a thickness of said ear nonwoven material ~~of said side parts in said front and/or said rear area~~ is greater than a thickness of said chassis nonwoven material ~~of said outer face of said backsheet~~, the thickness being determined under a test pressure of 0.5 kPa.

18. (Amended) The absorbent incontinence diaper for an adult user of claim 1 ~~3~~, wherein said first and second ears ~~side parts in said front and/or said rear area~~ are constituted by a an ear nonwoven material that is permeable to air and water vapor.

19. (Amended) The absorbent incontinence diaper for an adult user of claim 1 ~~3~~, wherein a mass per unit area of said first and second ears ~~side parts in said front and/or said rear area~~ is 18-60 g/m², 25-45 g/m², 27-40 g/m² ~~or 28-35 g/m²~~.

20. (Amended) The absorbent incontinence diaper for an adult user of claim 13, wherein a breathability of said ears side parts in said front and/or said rear area is greater than a breathability of said backsheet.

21. (Amended) The absorbent incontinence diaper for an adult user of claim 1, wherein said ears side parts in said front and/or said rear area are folded upon themselves at least about one folding line extending in a longitudinal direction.

22. (Amended) The absorbent incontinence diaper for an adult user of claim 1, wherein partial sections of said ears side parts are folded upon each other and lie against one another over an area, said partial sections being detachably fixed to each other in folded configuration at joining points or joining regions.

23. (Amended) The absorbent incontinence diaper for an adult user of claim 1, wherein said ears side parts in said front and/or said rear area have a reinforcing material means which, when viewed in a transverse direction, is narrower than each side part, said reinforcing material means being provided in at least a region overlapping said side edge of said chassis main part, thereby overlapping both a lateral side edge region of said chassis main part and part of said ear side part in said transverse direction.

24. (Amended) The absorbent incontinence diaper for an adult user of claim 1, wherein ~~the an~~ extent of ~~a side part in the front area and the rear area joined~~ said ears attached to the chassis main part beyond the side edge of the chassis main part in a transverse direction in an unfolded state is at least between 15 cm and ~~no more than~~ 35 cm.

25. (Amended) The absorbent incontinence diaper for an adult user of claim 1, wherein ~~the said~~ ears side parts in the front and the rear area joined attached to the chassis main part have an extent in a longitudinal direction of the incontinence diaper in the area of joining attaching to the chassis main part of at least 14 cm.

26. (Amended) An absorbent incontinence diaper, comprising:

a ~~main-part~~ chassis having an inner face which, when in use, is directed toward a user body and
an outer face which, when in use, is directed away from the user body, said ~~main-part~~ chassis
having an ~~absorption~~ absorbent body and a backsheet on a side of said ~~absorption~~ absorbent body
which, when in use, is directed away from the user body, said ~~absorption~~ absorbent body having
a smaller width than said backsheet, said ~~main-part~~ chassis also having a rear area, a front area,
and a crotch area lying between said rear area and said front area, said ~~main-part~~ chassis further
defining first and second side edges; ~~and side parts joined to said first and said second side~~
~~edges, said side parts having an inner face and an outer face,~~
~~wherein the incontinence diaper has four discrete, not directly connected side parts, with one side~~
~~part being attached to each of two side edges of said front area and a further side part being~~
~~attached to each of two side edges of said rear area,~~

a first ear attached as a separate component to said first side edge in said front area;

a second ear attached as a separate component to said second edge in said front area;

a third ear attached as a separate component to said first side edge in said rear area;

a fourth ear attached as a separate component to said second side edge in said rear area;

said first, second, third, and fourth ears having an inner face and an outer face;

wherein said crotch area has no ~~side parts~~ ears; and

said ~~side parts~~ third and fourth ears of said rear area having ~~mechanical closure means~~, said
~~closure means~~ having a closure component including mechanical closure aids for correctly
securing which, when in use, hold the diaper on a the user body of a user, when said closure

~~component means being structured and dimensioned for detachable fastening~~ is selectively fastened to either said outer face of said ~~chassis main part and~~ or to said outer face of said ~~side parts first and second ears in said front area;~~

wherein retaining forces between said ~~mechanical~~ closure component means and said outer face of said ~~main part~~ chassis are lower than retaining forces between said ~~mechanical~~ closure component means and said outer face of said ~~side parts first and second ears in said front area.~~

27. (Original) The absorbent incontinence article of claim 26, wherein said retaining forces are determined as over-abdomen retaining forces.

28. (Amended) The absorbent incontinence diaper of claim ~~26~~ 33, wherein said outer faces of said ~~side parts~~ ears in said front and/or said rear area are constituted by a ~~a~~ an ear nonwoven material.

29. (Amended) The absorbent incontinence diaper of claim 28, wherein at least a portion ~~portions or an entire area~~ of said outer face of said ~~main part~~ chassis is constituted by a chassis nonwoven material and a mass per unit area of said ear nonwoven material ~~of said side parts in said front and/or said rear area~~ is greater than a mass per unit area of said chassis nonwoven material ~~of said outer face of said backsheet.~~

30. (Amended) The absorbent incontinence diaper of claim 29, wherein a mass per unit area of said ~~side parts~~ ears in said front and/or said rear area is ~~18-60 g/m², 25-45 g/m², 27-40 g/m² or 28-35 g/m².~~

31. (Amended) The absorbent incontinence diaper of claim 29, wherein a thickness of ~~the~~ said ear nonwoven material ~~of said side parts in said front and/or said rear area~~ is greater than a thickness of said chassis nonwoven material ~~of said outer face of said backsheet~~, the thickness being determined under a test pressure of 0.5 kPa.

32. (Amended) The absorbent incontinence diaper of claim 26, wherein said ~~side parts~~ ears in said front and/or said rear area are folded upon themselves at least about one folding line extending in a longitudinal direction.

33. (Amended) The absorbent incontinence diaper of claim 26, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component ~~means having said mechanical closure aids~~ and said outer face of said chassis ~~main part~~, are 57-20 N/25 mm-~~or 50-25 N/25 mm~~.

34. (Amended) The absorbent incontinence diaper of claim 27, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component ~~means having said mechanical closure aids~~ and said outer face of said chassis ~~main part~~, are 57-20 N/25 mm-~~or 50-25 N/25 mm~~.

35. (Amended) The absorbent incontinence diaper of claim ~~26~~ 33, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component ~~means having said mechanical closure aids~~ and said outer face of said ~~side parts~~ first and second ears ~~in said front area~~, are 90-58 N/25 mm-~~or 80-60 N/25 mm~~.

36. (Amended) The absorbent incontinence diaper of claim ~~27~~ 34, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component ~~means having said mechanical closure aids~~ and said outer face of said ~~side parts~~ first and second ears ~~in said front area~~, are 90-58 N/25 mm-~~or 80-60 N/25 mm~~.

37. (Amended) The absorbent incontinence diaper of claim 26, wherein an extent of ~~a side part~~ an ear in the front area and the rear area ~~joined~~ attached to the chassis ~~main part~~ beyond the side edge of the chassis ~~main part~~ in a transverse direction in an unfolded state is at least 15 cm and no more than 35 cm.

38. (Amended) The absorbent incontinence diaper of claim 26, wherein the ~~side parts~~ ears in the front area and the rear area attached ~~joined~~ to the ~~main part~~ chassis have an extent in a longitudinal direction of the incontinence diaper in an area of attachment ~~joining~~ to the ~~main part~~ chassis of at least 14 cm.

39. (New) The absorbent incontinence diaper for an adult user of claim 1, wherein said retaining forces, determined as over-abdomen retaining forces between said mechanical closure aids and said outer face of said chassis, are 50-25 N/25 mm.

40. (New) The absorbent incontinence diaper for an adult user of claim 2, wherein said over-abdomen retaining forces are determined using a pull-off angle tangential to a curved surface and kept constant, said curved surface having a radius of curvature of 400 mm.

41. (New) The absorbent incontinence diaper for an adult user of claim 2, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component and said outer face of said chassis, are 50-25 N/25 mm.

42. (New) The absorbent incontinence diaper for an adult user of claim 1, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component and said outer face of said first and second ears, are 80-60 N/25 mm.

43. (New) The absorbent incontinence diaper for an adult user of claim 2, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component and said outer face of said first and second ears, are 80-60 N/25 mm.

44. (New) The absorbent incontinence diaper for an adult user of claim 9, wherein said first nonwoven material has a mass per unit area of 18-22 g/m².

45. (New) The absorbent incontinence diaper for an adult user of claim 1, wherein a mass per unit area of said first and second ears is 27-40 g/m².

46. (New) The absorbent incontinence diaper of claim 29, wherein a mass per unit area of said first and second ears is $28-35 \text{ g/m}^2$.

47. (New) The absorbent incontinence diaper of claim 26, wherein said retaining forces, determined as over-abdomen retaining forces between said mechanical closure aids and said outer face of said chassis, are $50-25 \text{ N/25 mm}$.

48. (New) The absorbent incontinence diaper of claim 27, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component and said outer face of said chassis, are $50-25 \text{ N/25 mm}$.

49. (New) The absorbent incontinence diaper of claim 26, wherein said retaining forces, determined as over-abdomen retaining forces between said-closure component and said outer face of said ears in said front area, are $80-60 \text{ N/25 mm}$.

50. (New) The absorbent incontinence diaper of claim 27, wherein said retaining forces, determined as over-abdomen retaining forces between said closure component and said outer face of said first and second ears, are $80-60 \text{ N/25 mm}$.

51. (New) The absorbent incontinence diaper of claim 27, wherein said over-abdomen retaining forces are determined using a pull-off angle tangential to a curved surface and kept constant, said curved surface having a radius of curvature of 400 mm.

52. (New) The absorbent incontinence diaper for an adult user of claim 4, further comprising:

said outer faces of said first and second ears are constituted by an ear nonwoven material;

at least a portion of said outer face of said chassis is constituted by a chassis nonwoven material;

a mass per unit area of said ear nonwoven material is greater than a mass per unit area of said chassis nonwoven material; and

a thickness of said ear nonwoven material is greater than a thickness of said chassis nonwoven, the thickness being determined under a test pressure of 0.5 kPa.

53. (New) The absorbent incontinence diaper for an adult user of claim 34, further comprising:

said outer faces of said first and second ears are constituted by an ear nonwoven material;

at least a portion of said outer face of said chassis is constituted by a chassis nonwoven material;
a mass per unit area of said ear nonwoven material is greater than a mass per unit area of said chassis nonwoven material; and

a thickness of said ear nonwoven material is greater than a thickness of said chassis nonwoven, the thickness being determined under a test pressure of 0.5 kPa.

54 (New) The absorbent incontinence diaper of claim 27, wherein said mechanical closure aids comprise hooks of a hook-and-loop fastener and wherein said closure component further comprises an adhesive closure aid.

APPLICANTS' REMARKS

Status of the claims

Claims 1 through 38 were pending in the application. Claims 1-26 and 28-38 are amended. New claims 39 through 54 are presented. Claims 1 and 26 are independent.

In the Office Action, dependent claims 3-6, 11, 19, 30, and 33-36 were rejected as indefinite due to claiming both a broad and narrower range in the same claim. These claims have been amended to overcome this rejection. Claims 1-38 were rejected on grounds of nonstatutory obviousness-type double patenting over issued patent 8,152,788 and provisionally rejected on grounds of nonstatutory obviousness-type double patenting over pending application 13/404,019. Although the Applicants do not acquiesce in these rejections, the Applicants' attorney submits with this amendment a terminal disclaimer to expedite the prosecution of this application.

Introduction

The present invention relates to an absorbent article with improved closure system for securing the diaper to a user. This diaper includes a chassis, or main part, and four ears, each attached as a separate component to a side edge of the chassis. The invention according to independent claims 1 and 26 also requires:

said third and fourth ears having a closure component including mechanical closure aids which, when in use, hold the diaper on the user body when said mechanical closure aids are selectively fastened to either said outer face of said chassis or to said outer face of said first and second ears;

wherein retaining forces between said closure component and said outer face of said chassis are lower than retaining forces between said closure component and said outer face of said first and second ears.

(hereinafter referred to as the "Variable Retention Forces Element").

This novel arrangement is advantageous. The specification, for example, discusses one advantage of this arrangement (§ 0009):

The materials forming the outer face of the main part and the outer face of the side parts in the front area are inventively chosen so that, in addition to their primary function, they can also serve as the engagement surface for the closure means having mechanical closure aids. Surprisingly it has also been shown that, when the retaining forces between the closure means and the outer face of the main part are smaller than the retaining forces between the closure means and the outer face of the side parts in the front area of the diaper, the users of the diapers tend to close the diaper in such a way that the closure means are secured on the outer face of the side parts in the front area. This, in turn, increases the wearing comfort of the diaper because it avoids overlapping of the side parts with the backsheet, which enables the advantages of the permeability to air and water vapor of the side parts to take effect without obstruction. Moreover, the risk of damage to the backsheet of the main part and therefore the risk of liquid passing through the mechanical closure aids is reduced.

The preferred embodiments disclosed in the specification achieve this advantage by (§
0049):

The mass per unit area of the nonwoven component for the side parts in the front area and preferably also in the rear area is preferably greater than the mass per unit area of the nonwoven component for the outer face of the main part. Due to the higher mass per unit area of the nonwoven component for the side parts, a higher closure retaining force is possible because the mechanical closure aids can engage with more fiber material. The higher mass per unit area of the nonwoven component of the side parts also encourages the user to fix the closure means having mechanical closure aids preferably to the side parts and not to the outer face of the main part because the user associates greater reliability of closure with a higher mass per unit area and therefore preferably with a greater thickness of the nonwoven component. The nonwoven component of side parts therefore has a greater thickness than the nonwoven component of the outer part of the main part, the thickness being determined under a test pressure of 0.5 kPa.

It is respectfully submitted that the amendments to the claims and terminal disclaimer overcome all of the rejections. As discussed below, these claims are also patentable over the references cited in related patent applications 13/404,019 and 13/861,341, in European counterpart applications, and in the related *Inter Partes* Review IPR2013-00173 regarding related U.S. Patent 8,152,788.

Discussion of References Cited in Related Applications and Proceedings

1. U.S. Patent No. Publication 2003/0125705 to Ruman et al.

The Ruman reference is directed to an absorbent article with improved fastening system and method of fastening thereof. This reference is directed to “a hook-and-loop fastening system in which the loop material is a stretchable material that is in an elongated state before contact is made with the hook material and is then contracted on the hook material after contact.” ¶ 0005. This is particularly advantageous “when the wearer is active, such as when stooping or bending as is common with a child in training pants.” ¶ 0004. Indeed, each embodiment describes a training pant. *E.g.*, ¶¶ 0045-0052, Figs. 1-5, 7.

As shown below, none of the embodiments discloses, or even suggests, the claimed invention. Examiner Stephens wrote: “Ruman does not teach specific retaining forces or that the retaining forces between the mechanical closure means and the outer face of the chassis are sufficient to secure the diaper on the user body, when in use, and are lower than retaining forces between the mechanical closure means and the outer face of the front area.” (13/404,019 Office Action dated 10/11/2013, p. 4.) Thus, there is agreement that the Ruman reference does not disclose or suggest the Variable Retention Force Element as required by claims 1 and 26.

Specifically, Ruman discloses that “[i]n one embodiment, one surface of each of the first fastening components 82 and 83 comprises a plurality of engaging elements that project from that surface. The engaging elements of the first fastening components 82 and 83 are adapted to repeatedly engage and disengage engaging elements of the second fastening components 84 and 85.” ¶ 0078. That is, mechanical fastening components engage with particularly located landing areas. *See also* ¶¶ 0079, 0082. This is also true of ¶ 0083, cited by the Examiner, which discusses locations for the second fastening components. In another embodiment, which is not illustrated in the figures, the first fastening components (*e.g.*, the mechanical fasteners) engage with a single landing area. “In an alternative embodiment, the training pant 20 includes only a single second fastening component disposed in the front waist region 22 for refastenably connecting the first fastening components 82 and 83 (not shown).” ¶ 0087.

In an alternative embodiment, the second fastening components may be all or a portion of the front or back side panels 34, 134 (¶ 0088):

In a further alternative embodiment illustrated in FIGS. 4 and 5, one or both of the fastening components can comprise integral portions of the waist regions. For instance, one of the elastomeric front or back side panels 34 and 134, respectively, can function as second fastening components in that they can comprise a material that is releasably engageable with fastening components disposed in the opposite waist region. As illustrated in FIGS. 4 and 5, the side panels 134 are made completely of stretchable loop material although, alternatively, these side panels could be made of loop material only at there [sic] outer ends where they will engage the hook material and the remainder of the side panels can be made of some other, preferably stretchable, material and joined along abutting edges thereof.

There is no indication that the single landing area or portion of the front or back side panels disclose the Variable Retention Forces Element.

2. U.S. Patent No. 5,897,545 to Kline et al.

Kline does not remedy the defects of Ruman.

Kline is directed to an elastomeric side panel for use with convertible absorbent articles. As shown below, Kline does not disclose, or even suggest, the claimed invention. In particular, the Kline reference does not disclose or suggest the Variable Retention Forces Element required by claims 1 and 26.

Specifically, Kline is related to absorbent articles having “elastomeric ear panels and a fastening system that provides the user with different options as to how the absorbent article may be fitted to and removed from the wearer.” 3:24-27. Kline discloses “refastenable mechanical fastening system is also preferred, including a first ear panel closure member disposed adjacent the distal edge of the first ear panel, a second ear panel closure member disposed adjacent the distal edge of the second ear panel. . . . The absorbent article preferably also includes a third closure member disposed in the front waist region on the outer surface of the containment assembly. The third closure member is engageable with the first ear panel closure member and the second closure member so as to define a waist hoop having a relaxed state circumference and a fully stretched circumference.” 3:63-4:20. As seen in Figs. 1, 2, and 3, Kline discloses that the third closure member 33 is either one (Fig. 1, 5:30-35) or two (Fig. 2, 23:32-46) landing zones, located on the front waist region 46 (*see, e.g.,* 23:66-24:45, describing the third closure member).

Kline does not disclose attachment to any side parts. There is no indication that Kline discloses the Variable Retention Forces Element required by claims 1 and 26.

Specifically, the Examiner cited to 22:21-23 in support of the rejection. This section reads “[i]n many embodiments of the present invention, most of the waist hoop stress is transmitted through the fastening system 200. (As used herein, the term "waist hoop stress" refers to the forces that are created in throughout the waist regions 44 and 46 of the diaper 20 when the diaper is worn, including the time when the diaper is being fitted to the wearer or being removed.)” Applicants understand the cited passage to be an indication that the fastening system causes stress on the waist opening. As seen in Fig. 1, “waist regions 44 and 46” are the rear waist and front waist region, respectively. Specifically the “diaper 20 additionally comprises a pair of flaps disposed in at least a portion of the rear waist region 44 such as first ear panel 62 and second ear panel 64, as shown in FIG. 1. The ear panels 62 and 64 preferably encircle part of the waist of the wearer when the diaper 20 is fitted to the wearer. When the diaper is fitted to the wearer in the conventional configuration, the ear panels 62 and 64 extend from the rear waist region 44 of the diaper 20 around the wearer's hips to the front waist region 46 of the diaper 20 where the ear panels 62 and 64 are fastened forming the diaper's waist closure.” 12:22-32. The Kline reference is directed to a “fastening system [that] is refastenable for convenience yet strong enough to maintain the diaper in a fastened configuration without becoming detached if the diaper is pulled off.” 3:35-39. *See also* 13:11-44; 22:35-43. It is submitted that the Kline reference is directed to a fastening system that can withstand waist hoop stress forces associated with the diaper that is being worn, fitted, or removed, and does not disclose variable retention forces.

Kline does not provide any teaching or suggestion of the claimed invention. Specifically, Kline does not disclose or suggest the Variable Retention Forces Element as required by claims 1 and 26. Because Ruman also does not disclose this claim element, the combination does not render claims 1 or 26 obvious.

Moreover, dependent claims 3, 4, 5, 6, 33, 34, 35, 36, 39, 41, 42, 43, 47, 48, 49, and 50 claim particular retention forces not taught or suggested by the combination of Ruman and Kline.

3. U.S. Patent No. 4,663,220 to Wisneski et al.

The Wisneski reference is directed to polyolefin-containing extrudable compositions and methods for their formation into elastomeric products including microfibers. Examiner Stephens cited Wisneski 6:47-51 as showing material suitable for the side parts having a basis weight within the claimed range. However, Wisneski does not overcome the deficiencies of Ruman or Kline, or their combination, as described above.

4. U.S. Patent No. 6,548,147 to Raidel et al.

The Raidel reference is directed to an apparatus and process for producing a corrugated web and an absorbent article comprising a corrugated web. Examiner Stephens cited Raidel 10:6-13 as showing an absorbent article having a backsheet comprising a nonwoven foil. However, Raidel does not overcome the deficiencies of Ruman or Kline, or their combination, as described above.

5. U.S. Patent No. 5,628,737 to Dobrin et al.

The Dobrin reference is directed to an absorbent article having breathable side panels. Examiner Stephens cited Dobrin 2:1-6 as showing a disposable absorbent having good containment and breathability that is economical and easy to manufacture at high speed. However, Dobrin does not overcome the deficiencies of Ruman or Kline, or their combination, as described above.

6. WO 2007/001815 to Van Gompel

The Van Gompel reference was cited in two European counterparts to this patent application.

Van Gompel is directed to a disposable absorbent article with front fastening assembly.

Van Gompel does not disclose “said third and fourth ears having a closure component including mechanical closure aids which, when in use, hold the diaper on the user body when said mechanical closure aids are selectively fastened to either said outer face of said chassis or to said outer face of said first and second ears” as required by claims 1 and 26. In Van Gompel, the ears simultaneously connect to both the sides and the front of the diaper. The Van Gompel

reference “provides a disposable garment having side attachment zones that when attached to the back ear portions of the garment, form side seams that primarily maintain the fit of the garment while in use. The middle attachment zone is useful for adjusting the fit of the garment and for maintaining a more garment-like appearance.” 3:11-16. Specifically (29:15-26):

If the diaper 20 is applied in diaper fashion, the wearer or caretaker aligns the pant about the body and fastens the diaper 20 by overlapping and then attaching the inner surface 63 of back ear portions 62 to the fastener assembly 60. If there is no addition or modification to the inner surface 63, there is no need for the wearer/caretaker to align any particular area of the inner surface 63 with the fastener assembly 60. If there is an addition or modification to the inner surface 63, it is desirable that the area of the addition or modification be sized such that the wearer/caretaker does not need to take additional effort to align these areas with portions of the fastener assembly 60. Once the side seam 76 is formed by attaching the proximal region 96 of the back ear portion to the fastener assembly, distal regions 98 may be repositioned to adjust the fit and/or appearance of the diaper 20.

Therefore, Van Gompel does not disclose a “closure component is selectively fastened to either said outer face of said chassis or to said outer face of said first and second ears. . .” as required by claims 1 and 26.

Van Gompel does not disclose a “closure component is selectively fastened to either said outer face of said chassis or to said outer face of said first and second ears” as required by claims 1 and 26. In Van Gompel the closure means are located on the outer face of the chassis, and connect with the inner face of the ears. “The representative disposable garments illustrated in Figs. 1-8 each have a mechanical fastener assembly located on the front waist region of the garment.” 8:4-6. *See* Figs. 1-8. Moreover, it would not have been obvious to provide a mechanical fastener assembly that connects with the outer face of the ears. Such an arrangement would have been uncomfortable for the wearer. This is because the extended fastening requires “a fastener assembly laterally disposed over a waist portion.” (Abstract.) If this assembly were placed on the inner side, the fastener assembly would be stiff and would affect the wearer’s skin.

Van Gompel does not disclose “mechanical closure aids which, when in use, hold the diaper on the user body when said mechanical closure aids are selectively fastened to ... said outer face of said chassis. . .” as required by claims 1 and 26. In Van Gompel, the side seams

hold the diaper on the wearer. “Side seam 76 is the primary fastening or bond that fits the diaper 20 to the wearer's body.” 19:23-24. Van Gompel does not disclose that the middle part of the diaper holds the diaper on the user body. Rather “the back ear portions 62 may overlap, or may cover about 50 percent of the width of the center component 185 to as little as about 15 percent of the center component 185.” 21:31-33. More specifically (23:11-18):

The proximal region 96b of back ear portion 62 attaches to the outer region 75 of fastener assembly 60 - 60b to form the refastenable side seam 76 that is characterized by a primary peel and shear strength. The distal region 98 of back ear portion 62 forms a secondary bond with the middle or central portion of the fastener assembly that is used to adjust the fit of the diaper/pant to the wearer's body. Thus, the distal region 98 of back ear portion 62 has a refastenable connection with the middle or central component (80, 185 or 92) of the fastener assembly 60 - 60b characterized by a secondary peel and shear strength.

Van Gompel discloses “[o]nce the side seam 76 is formed by attaching the proximal region 96 of the back ear portion to the fastener assembly, distal regions 98 may be repositioned to adjust the fit and/or appearance of the diaper 20.” 29:24-26. Moreover, dependent claims 3, 4, 5, 6, 33, 34, 36, 39, 41, 42, 43, 47, 48, 49, and 50 claim particular retention forces not taught or suggested by Van Gompel.

7. U.S. Patent 6,840,930 to Miyamoto

Examiner Stephens cited Miyamoto in related patent application 13/861,341.

Miyamoto is directed to a disposable absorbent article having reinforced ear panels.

Miyamoto does not disclose the Variable Retention Forces Element required by claims 1 and 26. Rather, Miyamoto discloses “the diaper preferably further comprises front ear panels 31; rear ear panels 30; barrier leg cuffs 32; and a fastening system 36 preferably comprising at least one pair of securement members 37 and a landing member 38.” 3:8-14. That is, Miyamoto discloses a single landing member that receives the securement members. As seen in Figs. 1 and 5, the landing member is located on the front part of the chassis.

There is no disclosure that the securement members are mechanical. *See, e.g.*, 1:17-23, as also required by claims 1 and 26.

Miyamoto does not disclose four “ear[s] attached as a separate component to said first [second] side edge” as required by claims 1 and 26. Rather, Miyamoto discloses two ear panels, as seen in Figs. 1, 3, and 5, and described at 8:7-10.

8. U.S. Patent Publication No. 2006/0247596 to Van Dyke

This reference was cited during a deposition in IPR2013-00173. This reference is directed to an absorbent article having front and back ears. This reference is incorporated by reference into U.S. Patent 8,162,913 to Goates et al (cited in the November 19, 2013 IDS as document A23). The purported relevance of Goates is set out in the Petition for *Inter Partes* Review (cited in the November 19, 2013 IDS as document C1), accompanying Declaration of Arrigo Jezzi (cited in the November 19, 2013 IDS as document C3), and Decision: Institution of an *Inter Partes* Review cited in the November 19, 2013 IDS as document C6). Goates refers to Van Dyke at 8:54-67 in a discussion of “[s]uitable ear configurations.” Van Dyke does not, for example, teach or suggest the Variable Retention Forces Element.

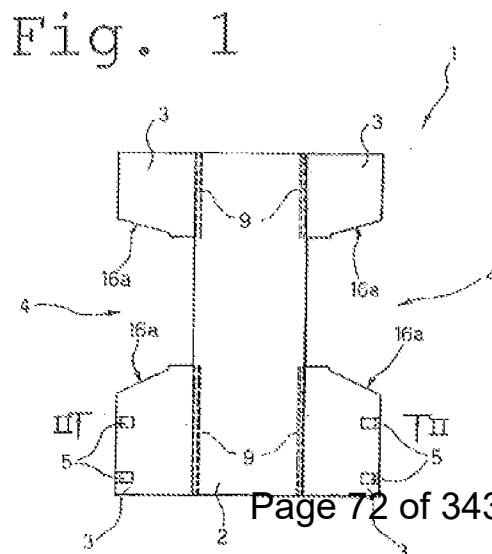
9. U.S. Patent No 5,246,431 to Minetola et al.

This reference was cited during a deposition in IPR2013-00173. Minetola is directed to a diaper with source reduction overlay and having improved fecal containment characteristics. Minetola does not, for example, teach or suggest the Variable Retention Forces Element.

10. Italian Patent Publication No. ITTO20030113 (A1) to Pasqualoni

This document is cited in the November 19, 2013 IDS.

Pasqualoni relates generally to a “[p]rocess and system for manufacturing sanitary items, such as incontinence pads and product thereof.” (Pasqualoni translation, page 1, lines 2-3.) FIGS. 1 and 2 of Pasqualoni show a sanitary product 1 having a “rectangular body 2 onto which back and front panels are applied respectively, which are indicated by



number 3.” (Pasqualoni translation, page 2, lines 22-24. See also Pasqualoni translation, page 7, lines 1-10.) The closure members 5 of Pasqualoni are “usually made of adhesive labels or micro-hooks (the so-called “Velcro”) designed so that, once worn and fitted to the person’s anatomy, product 1 can be closed at the waistline by connecting the back panels to the front panels.” (Pasqualoni translation, page 2, lines 30-34.)

Pasqualoni does not disclose the claimed “said third and fourth ears having a closure component including mechanical closure aids which, when in use, hold the diaper on the user body when said mechanical closure aids are selectively fastened to either said outer face of said chassis or to said outer face of said first and second ears.” As a result, Pasqualoni cannot disclose “retaining forces between said closure component and said outer face of said chassis are lower than retaining forces between said closure component and said outer face of said first and second ears.”

11. US Patent App. Pub. No. 2005/0261650 to Damaghi and Karami

This document is cited in the November 19, 2013 IDS.

Damaghi and Karami ‘650 “relates to disposable absorbent garments such as disposable diapers, and more specifically to disposable diapers having stay away zones that have less affinity to engage hook-type fasteners.” E.g., ¶ 0002. Damaghi and Karami ‘650 discloses an “absorbent article such as a diaper having a fastening system that prevents improper sizing of oversized diapers.” E.g., ¶ 0017. “A portion of the backsheet is provided with an area to which the loopless fasteners cannot attach. By controlling the size and location of this “stay-away-zone” improper sizing of diapers can be prevented.” ¶ 0021. Improper sizing is discussed in ¶ 0007: “Although such a loopless fastening system is more convenient for the user, there may be a tendency to take advantage of the unlimited landing area provided by loopless fasteners to gather in the slack created by the oversized diaper. This practice is wasteful as larger diapers are likely to be more expensive, and require more material to manufacture.” *See also* ¶¶ 0048, 0049.

The stay away zone 100 (as seen in Fig. 3) “can be created by spraying a solution or attaching a film over a portion of nonwoven backsheet 30 to which the fastener could not attach. Alternately, a stay away zone could be defined by selectively modifying areas of nonwoven backsheet 30, such as by heat or compression, to destroy its ability to adhere to the hooks of a loopless fastener. For example, a patch having dimensions of 7 inches x 11 inches and made

from stay away zone material may be attached to the outer surface of the front of the diaper to prevent misuse.” ¶ 0050.

“An alternate embodiment of diaper 10 is shown in FIG. 4. The structure of the diaper is essentially the same as that shown in FIG. 2, with the exception that in this embodiment, portions of backsheet 30L and 30R are divided by an aperture which exposes backing film 28 through the backsheet. Ideally, backing film 28 is inherently resistant to engagement with a loopless fastener. Therefore, as shown in FIG. 5, the assembled diaper 10 is illustrated having a region between portions 30R and 30L of backsheet 30 in which backing film 28 is exposed. In a diaper 10 wherein fasteners 50 are loopless fasteners, such fasteners would not engage the exposed portions of backing film 28, where the exposed film comprises a stay-away-zone.” ¶ 0054.

Damaghi and Karami ‘650 does not disclose that the stay-away zone can retain the hooks. In fact, it teaches *preventing* hook attachment in the so-called stay away zone. As a result, this reference shows connecting the hook attachments only to the sides of the article and not to the front of it. Moreover, the diaper does not have any “ear attached as a separate component” as required by the claim.

Therefore, Damaghi and Karami ‘650 fails to show at least the Variable Retention Forces Element of claim 1 and 26.

12. US Patent App. Pub. No. 2005/0261647 Karami and Damaghi

This document is cited in the November 19, 2013 IDS.

U.S. Patent App. Pub. 2005/0261650, discussed above, is a continuation-in-part of this publication, Karami and Damaghi ‘647.

Karami and Damaghi ‘647 “relates generally to disposable absorbent garments such as disposable diapers, and more specifically to disposable diapers having skin friendly breathable side panels or “wings” which may act as landing zones for hook and loopless fasteners.” E.g., ¶ 0001. Damaghi and Karami ‘647 discloses an “absorbent article such as a diaper having a fastening system that prevents improper sizing of oversized diapers.” E.g., ¶ 0016. “A portion of the backsheet is provided with an area to which the loopless fasteners cannot attach. By controlling the size and location of this “stay-away-zone” improper sizing of diapers can be

prevented.” ¶ 0020. Improper sizing is discussed in ¶ 0006: “Although such a loopless fastening system is more convenient for the user, there may be a tendency to take advantage of the unlimited landing area provided by loopless fasteners to use diapers that are not properly sized to the wearer. Particularly, diapers that are too large may still be nominally fitted to an individual due to the ability of the loopless fasteners to gather in the slack created by the oversized diaper. This practice is wasteful as larger diapers are likely to be more expensive, and require more material to manufacture.” *See also* ¶¶ 0044, 0045.

The stay away zone 100 (as seen in Fig. 3) “can be created by spraying a solution or attaching a film over a portion of nonwoven backsheet 30 to which the fastener could not attach. Alternately, a stay away zone could be defined by selectively modifying areas of nonwoven backsheet 30, such as by heat or compression, to destroy its ability to adhere to the hooks of a loopless fastener. For example, a patch having dimensions of 7 inches x 11 inches and made from stay away zone material may be attached to the outer surface of the front of the diaper to prevent misuse.” ¶ 0047.

Damaghi and Karami ‘647 does not disclose that the stay-away zone can retain the hooks. In fact, it teaches *preventing* hook attachment in the so-called stay away zone. As a result, this reference shows connecting the hook attachments only to the sides of the article and not to the front of it. Moreover, the diaper does not have any “ear[s] attached as a separate component to said first [second] side edge” as required by the claims 1 and 26.

Therefore, Karami and Damaghi ‘647 fails to show at least the Variable Retention Forces Element of claims 1 and 26.

13. US Patent App. Pub. No. 2003/0119404 to Belau et al.

Belau was cited in the prosecution of the related ‘788 patent and USSN 13/404,019, and the IPR of the ‘788 patent.

Belau discloses a pattern unbonded nonwoven material that includes continuous bonded areas that define discrete, dimensionally stabilized unbonded areas. ¶ 0033. Areas of the material are divided into regions or zones, with specific functions or characteristics. One such

zone may provide “optimal hook engagement.” ¶ 0034. The outer regions are not used as a loop area for the fastening system. ¶ 0080.

Although Belau describes different portions of the material having different properties, it does not describe closure means for detachable fastening to the outer face of the main part and to the outer face of the side parts in the front area. Even if Belau disclosed four ears attached as a separate component to a side edge (which it does not), Belau discloses only one region for engaging the closures. For example, in ¶ 0015, only “the first region includes a first pattern of discrete unbonded area that for a female component adapted for releasable engagement with the male component. The second region includes a second pattern. . . .” *See also* ¶ 0013. The pattern “unbonded nonwoven material 4 is divided into a plurality of regions or zones 4A, 4B, which have different bond patterns in a direction. The different bond patterns provide different, specific functionality or characteristics to the regions 4A and 4B. In an embodiment, the center region 4A of the material 4 provides optimal hook engagement. The outer regions 4B of the material 4 provide different characteristics than the center region 4A.” ¶ 0034. Belau does not disclose that region 4B provides hook engagement. *See also* ¶ 0064. Specifically, Belau does not disclose at least the Variable Retention Forces Element of claims 1 and 26.

14. US Patent App. Pub. No. 2005/0256496 to Benning et al.

Benning was cited in the IPR of the ‘788 patent.

Benning describes an hygienic article for incontinence. Benning discloses closures that “act in concert with similarly configured landing zones in the front region of the main body portion.” ¶¶ 0003, 0030. Specifically, Benning does not disclose at least the following the Variable Retention Forces Element of claims 1 and 26.

15. U.S. Patent No. 6,936,129 to Karami et al.

Karami ‘129 was cited in the IPR of the ‘788 patent.

Karami discloses a so-called “T-Shaped” diaper, where two wings are connected to the rear of the diaper. E.g., 1:44-47. The tapes and landing zones are on these same two wings. E.g., ¶ 3:42-45. Specifically, Karami does not disclose the Variable Retention Forces Element of claims 1 and 26.

16. US Patent No. 8,162,913 to Goates et al.

Goates was cited in the IPR of the '788 patent.

Goates relates to a folded absorbent article. As seen in Fig. 2, Goates has ears 34, 134 at the rear of the diaper. Fastening members 62, 64 are attached to the ears. The fastening members engage with the outercover 40 of the diaper, or onto an attachment panel located on the outer cover. E.g., 10:8-16. Specifically, Goates does not disclose at least the Variable Retention Forces Element of claims 1 and 26.

17. US Patent App. Pub. No. 2006/0658772 to Karami

Karami '772 was cited in the IPR of the '788 patent.

Karami relates to a manner of treating the material of a diaper so that the hooks of a hook-and-loop fastener can retain the hooks instead of using expensive "miniloop fastener" landing zones. E.g., ¶¶ 0002, 0005. Karami discloses a fastening system for an absorbent article where a portion of a bonded nonwoven surface is subjected to a water jet treatment and/or aperturing. ¶ 0010. A hook-type fastener is releasably attached to the *treated portion*. ¶0011. Karami describes treating the "wings" of the article. ¶ 0012. Fig. 8 illustrates a portion of the front waist portion of the diaper that is a so-called "stay-away zone." This stay away zone may either be an *untreated portion* of an otherwise-treated front waist portion, or made of an inner back film or SMS non-woven. ¶ 0053. Karami does not disclose that the stay-away zone permits retention of fasteners when the diaper is on the user.

Therefore, Karami fails to show at least the Variable Retention Forces Element required by claims 1 and 26.

18. US Patent No. 5,685,873 to Bruemmer

Bruemmer was cited in the IPR of the '788 patent.

Bruemmer discloses a disposable diaper having differentially stretchable ears with childproof fastening. The diaper has stretchable ears with snap-type closures for the ears, which keep the ears fastened together. 2:39-50. Stretchable ears 44 are connected to the back section and have a hook panel 52 and snap fasteners 54. The male portion of the snap, on the inner side

of one ear connects to the female portion of the snap on the outside of the other ear. The hook panels connect to loop panels on the outer surface of the backsheet. E.g., 4:17-5:5:15. Specifically, Bruemmer does not disclose at least the Variable Retention Forces Element required by claims 1 and 26.

19. The So-Called “Folding References”:

Benning, US Patent App. Pub. No. 2005/0256494 to Datta, US Patent No. 6,524,294 to Hilston et al., US Patent No. 6,626,881 to Shingu et al., US Patent No. 6,878,223 to Kuen et al., US Patent No. 6,461,343 to Schaefer, and US Patent No. 4,084,592 to Tritsch are cited in the IPR as allegedly disclosing a “folding” claim element, which is not found in either of the independent claims of this application.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Application No. 13/798,242
Amdt. Dated November 22, 2013
(in response to the Office Action dated July 2, 2013)

Applicant's undersigned attorney may be reached by telephone at (212) 969-3138.
Please direct all correspondence to Customer No. 42532 at the address provided below.

Respectfully submitted,

PROSKAUER ROSE LLP

Date: November 22, 2013

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) HAR-788C2
Application Number 13/798,242	Filed March 13, 2013	
For Absorbent Incontinence Article with Improved Closure System		
Art Unit 3761	Examiner Stephens, Jacqueline F.	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
<input type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ _____
<input checked="" type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$ 600.00
<input type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$ _____
<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$ _____
<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$ _____

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 50-3081.

☒ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☒ attorney or agent of record. Registration number 45,238.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Gerald E. Worth #45,238/

Signature

November 22, 2013

Date

Gerald E. Worth

Typed or printed name

617.526.9626

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☐ * Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). 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 1.11 and 1.14. This collection is estimated to take 6 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.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING
REJECTION OVER A PENDING "REFERENCE" APPLICATION**Docket Number (Optional)
HAR-788C2

In re Application of: Susanne BECKERT et al.

Application No.: 13/798,242

Filed: March 13, 2013

For: Absorbent Incontinence Article with Improved Closure System

The applicant, PAUL HARTMANN AG, owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 13/404,019 filed, February 24, 2012, as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the applicant does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent granted on the pending **reference** application expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

Check either box 1 or 2 below, if appropriate.

1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 34,139

/Anthony C. Coles/
Signature

November 22, 2013
Date

Anthony C. Coles
Typed or printed name

Attorney for Applicant
Title

212-969-3138
Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.321. 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 1.11 and 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.**

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**TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING
REJECTION OVER A "PRIOR" PATENT**Docket Number (Optional)
HAR-788C2

In re Application of: Susanne BECKERT et al.

Application No.: 13/798,242

Filed: March 13, 2013

For: Absorbent Incontinence Article with Improved Closure System

The applicant, PAUL HARTMANN AG, owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 8,152,788 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for any during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

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- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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/Anthony C. Coles/

Signature

November 22, 2013

Date

Anthony C. Coles

Typed or printed name

Attorney for Applicant

Title

212-969-3138

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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Electronic Patent Application Fee Transmittal

Application Number:	13798242			
Filing Date:	13-Mar-2013			
Title of Invention:	Absorbent incontinence article with improved closure system			
First Named Inventor/Applicant Name:	Susanne Beckert			
Filer:	Gerald E. Worth			
Attorney Docket Number:	HAR-788C2			
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:				
Claims in Excess of 20	1202	16	80	1280
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 2 months with \$0 paid	1252	1	600	600
Miscellaneous:				
Statutory or Terminal Disclaimer	1814	2	160	320
Total in USD (\$)				2200

Electronic Acknowledgement Receipt

EFS ID:	17480387
Application Number:	13798242
International Application Number:	
Confirmation Number:	4782
Title of Invention:	Absorbent incontinence article with improved closure system
First Named Inventor/Applicant Name:	Susanne Beckert
Customer Number:	42532
Filer:	Gerald E. Worth
Filer Authorized By:	
Attorney Docket Number:	HAR-788C2
Receipt Date:	22-NOV-2013
Filing Date:	13-MAR-2013
Time Stamp:	16:45:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 2200
RAM confirmation Number	4315
Deposit Account	503081
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

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

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	HAR788C2_Transmittal.pdf	264239	no	2
			025ed8b01bdb3e5ef3c51add3adb646e9465d17		

Warnings:

Information:

2		HAR788C2_Response.pdf	164896	yes	31
			3968b36b7d0762c921ca60a5a6eca98d97b95940		

Multipart Description/PDF files in .zip description

	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Applicant summary of interview with examiner	2	3
	Specification	4	4
	Claims	5	15
	Applicant Arguments/Remarks Made in an Amendment	16	31

Warnings:

Information:

3	Extension of Time	HAR788C2_EOA.pdf	186909	no	2
			ecd974a48de8185c29706f9400e541b35a900107		

Warnings:

Information:

4	Terminal Disclaimer Filed	HAR788C2_Disclaimer1.pdf	247119	no	2
			d78b1445e00da2b760f8cfbea0f74ccf03af517c		

Warnings:

Information:

5	Terminal Disclaimer Filed	HAR788C2_Disclaimer2.pdf	141745	no	2
			93ceee041db8c4eeffb01504f09d3e13971d187d		

Warnings:

Information:

6	Fee Worksheet (SB06)	fee-info.pdf	33775 7b276540a728294a585b8ed9eec944da2741f5b5	no	2
Warnings:					
Information:					
Total Files Size (in bytes):				1038683	
<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>					

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.

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	13/798,242
	Filing Date	March 13, 2013
	First Named Inventor	Beckert
	Art Unit	3761
	Examiner Name	Stephens, Jacqueline F.
Total Number of Pages in This Submission	Attorney Docket Number	HAR-788C2

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): - Terminal Disclaimers (2 forms)
Remarks The Director is hereby authorized to charge any fee due upon submission of this mailing to Deposit Account No. 50-3081.		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Name	Proskauer Rose LLP	
Signature	/Gerald E. Worth 45,238/	
Printed name	Gerald E. Worth	
Date	November 22, 2013	Reg. No. 45,238

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name		Date	

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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 13/798,242	Filing Date 03/13/2013	<input type="checkbox"/> To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 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 (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	11/22/2013	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 54	Minus	** 38	= 16	X \$80 =	1280
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X \$420 =	0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE							1280

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
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.

LIE
/LASHAWN MORGAN/

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.



UNITED STATES PATENT AND TRADEMARK OFFICE

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/798,242	03/13/2013	Susanne Beckert	HAR-788C2	4782

42532 7590 11/19/2013
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

EXAMINER

STEPHENS, JACQUELINE F

ART UNIT	PAPER NUMBER
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3761

NOTIFICATION DATE	DELIVERY MODE
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11/19/2013

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):

DocketingPatentBoston@proskauer.com
oandrews@proskauer.com

<i>Applicant-Initiated Interview Summary</i>	Application No. 13/798,242	Applicant(s) BECKERT ET AL.	
	Examiner JACQUELINE STEPHENS	Art Unit 3761	

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

(1) JACQUELINE STEPHENS. (3) Dr. Eckhard Oltmann.

(2) Anthony Coles. (4) _____.

Date of Interview: 08 November 2013.

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

Exhibit shown or demonstration conducted: ☒ Yes ☐ No.
 If Yes, brief description: Brief with side panels and fasteners attached to side panels.

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: 1.

Identification of prior art discussed: Van Gompel WO2007001815, Kline 4663220.

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 discussed Van Gompel with regard to claim 1. Applicant indicated Van Gompel does not teach four discrete side parts and Van Gompel teaches away from selective attachment with a front side and a side part area. With regard to Kline, Applicant indicates the waist hoop stress examiner relies on for a teaching of differential retention forces is not relative to the retention forces obtained by the differences in the side part and outer surface of the nonwoven as taught in the present invention. Kline further teaches fastening to the main part instead of the side part. Applicant the combination of Runeman and Kline would not arrive at the differential retention forces taught in the present invention.

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

	/Jacqueline F. Stephens/ Primary Examiner, Art Unit 3761
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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.

☒ Applicant(s) requests that the following co-pending applications and proceedings be considered:

<i>Examiner's Initials</i>	<i>Attorney Docket No.:</i>	<i>U.S. Application No./Patent No.:</i>	<i>Inventors:</i>	<i>Filed:</i>
	HAR-788	12/446,586	Beckert <i>et al.</i>	04/22/2009
	HAR-788C1	13/404,019	Beckert <i>et al.</i>	02/24/2012
	HAR-788C2	13/798,242	Beckert <i>et al.</i>	03/13/2013
	HAR-788C3	13/861,341	Beckert <i>et al.</i>	04/11/2013
	HAR-788IPR	IPR2013-00173	Beckert <i>et al.</i>	02/28/2013

It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

Respectfully submitted,

Date: November 19, 2013
Reg. No.: 34,139

Tel. No.: (212) 969-3138
Fax No.: (617) 526-9899

/Anthony C. Coles, Reg. No. 34,139/
Anthony C. Coles
Proskauer Rose LLP
Attorney for the Applicant
One International Place
Boston, MA 02110

FORM PTO – 1449 INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761			
U.S. PATENT DOCUMENTS							
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A1	4,084,592	4/18/1978	Tritsch			
	A2	5,246,431	09/21/1993	Minetola et al.			
	A3	5,549,592	8/27/1996	Fries et al.			
	A4	5,549,777	8/27/1996	Langdon et al.			
	A5	5,628,737	5/13/1997	Dorbin et al.			
	A6	5,685,873	11/11/1997	Bruemmer			
	A7	5,897,545	4/27/1999	Kline			
	A8	5,904,793	5/18/1999	Gorman et al.			
	A9	6,218,593	4/17/2001	Torimae et al.			
	A10	6,402,730	6/11/2002	Malowaniec			
	A11	6,461,343	10/8/2002	Schaefer et al.			
	A12	6,524,294	2/25/2003	Hilston et al.			
	A13	6,548,147	4/15/2003	Raidel et al.			
	A14	6,582,543	6/24/2003	Nilsson et al.			
	A15	6,626,881	9/30/2003	Shingu et al.			
	A16	6,332,250	12/25/2001	Igaue et al.			
	A17	6,701,580	3/9/2004	Bandyopadhyay			
	A18	6,840,930	1/11/2005	Miyamoto et al.			
	A19	6,878,223	4/12/2005	Kuen et al.			
	A20	6,936,129	8/30/2005	Karami et al.			
	A21	7,482,505	1/27/2009	Stupperich et al.			
	A22	8,152,788	4/10/2012	Beckert et al.			

FORM PTO – 1449 INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761			
U.S. PATENT DOCUMENTS							
EXAM INIT.		DOCUMENT NO.	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A23	8,162,913	4/24/2012	Goates et al.			
	A24	8,216,414	7/10/2012	Hornung et al.			
	A25	2003/0125705	7/3/2003	Ruman			
	A26	2003/0119404	6/26/2003	Belau et al.			
	A27	2005/0003143	1/6/2005	Ducauchuis et al.			
	A28	2005/0256494	11/17/2005	Datta			
	A29	2005/0256496	11/17/2005	Bentning et al.			
	A30	2005/0261647	11/24/2005	Karami et al.			
	A31	2005/0261650	11/24/2005	Damagi et al.			
	A32	2005/191460	9/1/2005	Belau			
	A33	2006/0058772	3/16/2006	Karami			
	A34	2006/0282053	12/14/2006	Rohrl			
	A35	2008/0208152	8/28/2008	Eckstein et al.			
	A36	2006/0247596	11/02/2006	Van Dyke			
	A37	2007/0254158	11/1/2007	Bormann et al.			
	A38	2008/0026178	1/31/2008	Stupperich et al.			
	A39	2009/0069776	3/12/2009	Utsunomiya et al.			
	A40	4,663,220	5/5/97	Wisneski et al.			
EXAMINER				DATE CONSIDERED			

FORM PTO – 1449				ATTY DOCKET NO.: HAR-788C2					
INFORMATION DISCLOSURE STATEMENT				APPLICANTS: Beckert <i>et al.</i>					
				APPLICATION NO.: 13/798,242					
				FILING DATE: March 13, 2013					
				GROUP: 3761					
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
	B1	10 2004 021353	11/10/2005	DE				N	Y Abstract Only
	B2	10 2004 053469	5/4/2006	DE				N	Y Abstract Only
	B3	0 800 808	10/15/1997	EP				N	Y
	B4	1 048 236	11/2/2000	EP				N	Y
	B5	1 915 977	4/30/2008	EP				N	Y Abstract Only
	B6	2000-270908	10/3/2000	JP				N	Y Abstract Only
	B7	2000-513644	10/17/2000	JP				N	Y Abstract Only
	B8	2005-514530	5/19/2005	JP				N	Y Abstract Only
	B9	2005-537039	12/8/2005	JP				N	Y Abstract Only
	B10	2006-187646	7/20/2006	JP				N	Y Abstract Only
	B11	2006-508870	3/16/2006	JP				N	Y Abstract Only
	B12	2007-268220	10/18/2007	JP				N	Y Abstract Only
	B13	09-173382	7/8/1997	JP				N	Y Abstract Only
	B14	09-509901	10/7/1997	JP				N	Y Abstract Only
	B15	99/037263	7/29/1999	WO				N	Y
EXAMINER					DATE CONSIDERED				

FORM PTO – 1449 INFORMATION DISCLOSURE STATEMENT				ATTY DOCKET NO.: HAR-788C2 APPLICANTS: Beckert <i>et al.</i> APPLICATION NO.: 13/798,242 FILING DATE: March 13, 2013 GROUP: 3761					
FOREIGN PATENT DOCUMENTS									
EXAM INIT.		DOCUMENT NO.	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRAC T ONLY	ENGLISH LANG (Y/N)
	B16	2004/105668	12/9/2004	WO				N	Y Abstract Only
	B17	2005/102241	11/3/2005	WO				N	Y Abstract Only
	B18	2006/048173	5/11/2006	WO				N	Y Abstract Only
	B19	2008/049546	5/2/2008	WO				N	Y Abstract Only
	B20	10 2004 042405	3/30/2006	DE				N	Y Abstract Only
	B21	0 882 828	12/9/1998	EP				N	Y Abstract Only
	B22	03/082167	10/9/2003	WO				N	Y
	B23	ITTO 20030113 A1	05/19/2003	IT				N	Y
	B24	2007/001815	01/04/2007	WO				N	Y
	B25	1 655 006 B1	05/10/2006	EP				N	Y
OTHER ART, JOURNAL ARTICLES, ETC.									
EXAM INIT.		OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)							
	C1	Petition for Inter Partes Review of U.S. Patent No. 8,152,788 Patent filed on February 28, 2013, 65 pages, IPR2013-00173.							
	C2	IPR2013-000173, Exhibit 1004 submitted with Petition (February 28, 2013), File History of U.S. Patent No. 8,152,788 to Beckert et al.							
	C3	IPR2013-000173, Exhibit 1018 submitted with Petition (February 28, 2013), Declaration under 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42 of Arrigo D. Jezzi Supporting the Invalidity of U.S. Patent No. 8,152,788.							
	C4	Medline Industries, Inc. v. Paul Hartmann AG, United States District Court Northern District of Illinois, Case No. 1:13-cv-01623 Complaint for Declaratory Relief filed March 1, 2013; 27 pages.							
EXAMINER					DATE CONSIDERED				

FORM PTO – 1449		ATTY DOCKET NO.: HAR-788C2
INFORMATION DISCLOSURE STATEMENT		APPLICANTS: Beckert <i>et al.</i>
		APPLICATION NO.: 13/798,242
		FILING DATE: March 13, 2013
		GROUP: 3761
OTHER ART, JOURNAL ARTICLES, ETC.		
EXAM INIT.		OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)
	C5	Medline Industries, Inc. v. Paul Hartmann AG, United States District Court Northern District of Illinois, Civil Docket for Case No. 1:13-cv-01623, generated date November 19, 2013, 2 pages.
	C6	IPR2013-00173, Decision: Institution of Inter Partes Review under 37 C.F.R. § 42.108 (issued Jun 20, 2013 by Patent Trial and Appeal Board), Paper 17, relating to U.S. Patent No. 8,152,788 to Beckert et al.
	C7	EPO Office Action in EP Appl. No. 07819098 citing Van Gompel, August 27, 2013, 5 pages (in German).
	C8	Patent Owner's Response with Exhibits, filed in IPR2013-00173, September 19, 2013, 490 pages.
	C9	Declaration of Andrew Urban III, with Exhibits, September 19, 2013, 63 pages.
	C10	Videotaped Deposition of Andrew Urban III, with Exhibits, November 7, 2013, 472 pages.
	C11	EPO Office Action in EP Appl. No. 06022450 citing Van Gompel, August 27, 2013, 7 pages (in German).
EXAMINER		DATE CONSIDERED

Electronic Patent Application Fee Transmittal

Application Number:	13798242			
Filing Date:	13-Mar-2013			
Title of Invention:	Absorbent incontinence article with improved closure system			
First Named Inventor/Applicant Name:	Susanne Beckert			
Filer:	Gerald E. Worth			
Attorney Docket Number:	HAR-788C2			
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:	17433647
Application Number:	13798242
International Application Number:	
Confirmation Number:	4782
Title of Invention:	Absorbent incontinence article with improved closure system
First Named Inventor/Applicant Name:	Susanne Beckert
Customer Number:	42532
Filer:	Gerald E. Worth
Filer Authorized By:	
Attorney Docket Number:	HAR-788C2
Receipt Date:	19-NOV-2013
Filing Date:	13-MAR-2013
Time Stamp:	23:04:52
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	7609
Deposit Account	503081
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

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

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Foreign Reference	B1.pdf	2528305	no	20
			bb93f9f95c4ccfceb29aa5e7bdd2372cda054c12		
Warnings:					
Information:					
2	Foreign Reference	B2.pdf	2584769	no	21
			361aa43c1dce89e4498e4ff11bab8b409137492b		
Warnings:					
Information:					
3	Foreign Reference	B3.pdf	3675754	no	26
			130b7f1e66314e4dd612fd017bb381f7df0c27d2		
Warnings:					
Information:					
4	Foreign Reference	B4.pdf	1047440	no	9
			25f3169451419a4f49ea33021925dbbd09d4e3af		
Warnings:					
Information:					
5	Foreign Reference	B5.pdf	3299472	no	27
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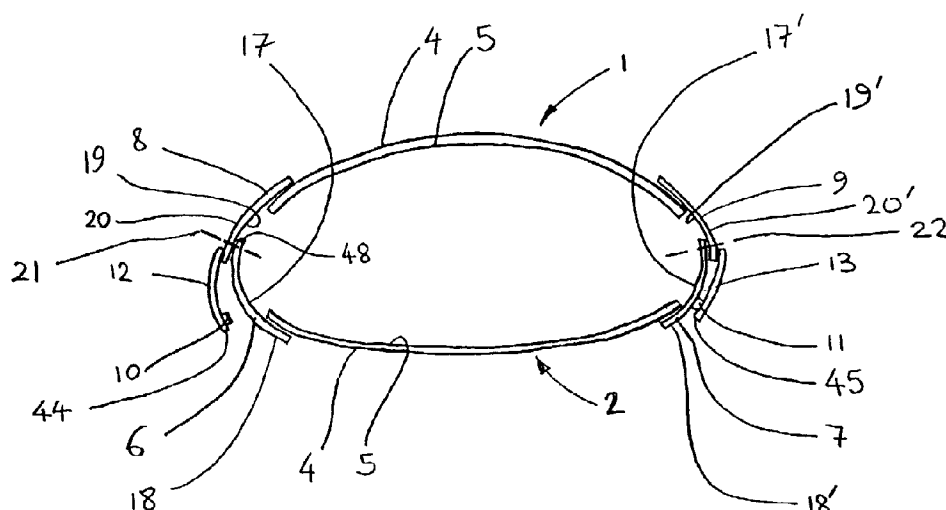
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(54) Title: PREFASTENED ABSORBENT PRODUCT WITH ELASTIC RECLOSABLE SIDES AND METHOD FOR PRODUCING SAME



(57) **Abstract:** An absorbent prefasted product in the form of a disposable pants diaper is provided with a side closure arrangement on each side. The side closure includes front and rear side flaps having elastic portions where an inner surface (19, 19') of a rear side flap (8, 12, 9, 13) is overlapped and welded to an outer surface (18, 18') of a front side flap (6, 7). Each side flap (8, 12, 9, 13) is also provided with one part of a releasable fastening system (10, 11, 15, 16) located such that the weld is located on at least one of the elastic portions and such that it lies inward of the releasable fastening system in the prefasted state. A method of forming the absorbent product is also provided, in which an overlapped attachment is formed by joining front and rear side flap members (7a, 9a, 13a) together and attaching the side flap members (7a, 9a, 13a) to an absorbent chassis member.

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Title: Prefastened absorbent product with elastic reclosable sides and method for producing same

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Field of the invention:

The present invention relates to an absorbent product for absorbing human exudate, such as a diaper or training pants. In particular, the invention relates to absorbent pants (e.g. training pants) of the disposable type, i.e. of the type which are to be discarded when soiled and are not intended to be washed and re-used. Still more particularly, the invention relates to an absorbent pants diaper which is manufactured in a closed state, i.e. a prefastened state, ready to be pulled on for wearing, yet which comprises side closures which can be opened for example for removal or inspection of the product, and which further comprises means allowing the sides of the product to be reclosed by use of a releasable attachment means such as a mechanical or adhesive releasable attachment means.

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Background to the invention:

Disposable training pants are well known and several different designs are available. For example, disposable training pants having front and rear portions fixedly attached together are known from WO-A-95/29657 and WO-96/31178. These designs provide adjustability of the waistband size to a range of users due to various elastic arrangements, but they must be removed like a normal pair

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of pants since the waist regions are formed with substantially continuous waistbands.

5 WO-A-00/35396 also discloses training pants with side panels which can be elastic. The side panels are formed overlapped and attached together in a prefastened state by means of releasable fastening means. The side closures further include an adhesive between them, in order to limit accessibility to the reclosable fastening means.

10 The adhesive is placed so as to connect the outer flap of the overlapped flaps to the inner flap at a distal end location of the outer flap beyond the location of the releasable fastening means thereon. This provides a child-safety function. The adhesive bond is then opened

15 to gain access to the reclosure element. Since the adhesive must allow access to the reclosure means without destruction of the side panels during opening of the adhesive bond (otherwise the product would be ruined) a low bond force must be used for the adhesive. In

20 preferred embodiments the glue should remain tacky to allow repeated opening and reclosure.

GB-A-2 267 024 discloses a prefastened absorbent product providing the possibility of rupture of the side seams

25 for removal or inspection of the product, and then the further possibility of re-closure. The absorbent garment has a rear portion, a front portion and a crotch portion therebetween, in which the rear portion and the front portion are united together by a seam. The seam is

30 constituted by a line of attachment passing through the outer edges of the front and rear portions at each side of the garment. To allow opening of the article by tearing, the front portion is provided with a line of weakening at either side, at a location spaced inwardly

35 from the seam. Also, a re-closure possibility (i.e.

releasable fastening means) is provided by two additional side panels on the front portion. A first edge of each of the side panels is fixedly attached to the outside of the front portion in the same seam as used for the rear and front portions, and a second edge of each side panel is provided with releasable attachment means which can releasably attach to the front portion.

GB-A-2 267 024 presents several disadvantages. Firstly, in order to prevent the front and rear portions of the diaper from separating involuntarily due to the forces arising due to the wearer's movement which act directly on the seams from inside the product, the seam has to be made particularly strong. Bonding using a force of 1000g/inch (393.7g/cm) or more is thus required. At the same time, the line of weakening in each of the front portions has to possess a force of rupture below the bonding force level in the side seams, to avoid the seam being pulled apart when opening the diaper, yet still sufficiently high to prevent the line of weakening from being ruptured involuntarily.

The balance between these forces is difficult to achieve reliably, especially in high-speed production, particularly since the seam has to extend through three layers of material. Producing a reliable seam extending through all three separate layers of the product adds a further difficulty to be taken into account when producing the required bond strength.

Still further, the releasable attachment means on the front portion side flaps is releasably attached to the front portion of the product with a strength which should prevent the product from coming apart involuntarily when only the front portion side flaps are used to hold the

product together. Due to this arrangement, when the front portion is to be pulled away from the rear portion at the lines of weakening, the releasable attachment means will exert a force on their line of attachment in the seam unless the reclosable means is first undone. This force may rupture the seam between either the front and rear portions or the front portion and the front side flaps.

A further known solution using a flush and welded connection between two side portions of a diaper is disclosed in US-A-5 370 634. The flush seal is subject to peel forces arising from the normal movements of the wearer. Likewise the sealed area presents outwardly extending edge portions which are sealed at their outermost edges, thereby producing relatively hard combined edge portions. This is not only unsightly, but the hard free edge can easily come into contact with the user's skin at the upper and or lower edges thereof, causing discomfort.

The seam produced in GB-A-2 267 024 also has further disadvantages in that not only two, but three panels are combined with their outer cut edges lying outside the seam. As in US-A-5 370 634, this produces a stiff edge arrangement, since the seam lies just inside the edges of the three panels. This again can affect comfort when the wearer's clothes press against the hard seam edge for example, as well as resulting in discomfort at the upper and lower edges of same. The flush seams in both US-A-5 370 634 and GB-A-2 267 024 nevertheless allow production in a flattened condition.

WO-A-99/65438 discloses a further garment arrangement in which the outer edges of a front waist section are overlapped by two rear side panels of a rear waist

portion. The outer ends of the front waist portion are fixedly attached by means of passive bonds to the inner surface of the rear waist portion and to the leg elastic at the rear part of the garment. The rear side panels further comprise two different type of reclosure means in the form of hook and loop fasteners which are releasably secured to the front waist portion. In this way, the passive bonds provide added shear strength to assist the reclosure means. Such an arrangement can provide a stable side closure system as a result of the passive bond locations. However such products suffer from a lack of adaptability and poor comfort and must rely on the waist band to provide some limited elasticity.

The invention has the object of providing an absorbent product with an improved side closure construction which allows low attachment forces to be used in releasable and non-releasable (i.e. fixed) attachment areas, while maintaining a closure arrangement which is reliable yet which allows a high degree of elasticity in the side closure and at the same time providing a good fit on the wearer.

The present invention also seeks to provide a method for producing an absorbent article of the type described above which obviates the problems with a flush seam and yet which can be easily formed in a flat condition during production.

Summary of the invention

The main objectives are achieved by an absorbent product and method having the features defined in the independent product and method claims respectively. Preferred features of the invention are defined in the dependent claims.

Further features of the invention will be apparent to the reader of this specification.

5 In accordance with the invention, the absorbent product comprises at least two sets of closure means, a first closure means which forms a fixed attachment between the elastic side flaps of the front and rear portions by means of a weld, and a second closure means which is in
10 the form of a releasable fastening means.

The fixed attachment by means of a weld refers to a type of permanent attachment between two parts which is not intended to be opened unintentionally and once opened
15 cannot be reformed. The weld is preferably formed by ultrasound welding or by heat welding, but other forms of welding may be used. The weld may be such that it can be opened by applying peeling forces which results in peeling apart (typically with some tearing) of the weld,
20 or may be made at a strength such that the weld remains substantially intact while a specific part of the side flap adjacent the weld will be made to rupture.

The releasable fastening means is, on the other hand, a
25 type of attachment which is capable of being opened and re-closed. Such releasable fastening means comprise two members which cooperate to give a releasable attachment when a relatively light pressure is applied forcing the two members together. Such releasable attachment means
30 may be of the mechanical type. One form of such a mechanical fastener is the hook and loop type, whereby one member comprises material having hooks or other projections thereon (e.g. mushroom-head projections), and the other member comprises complementary loops, receiving apertures or receiving spaces. Nonwoven material can for
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example by itself form a loop member, whereby the hooks of the complementary hook part can releasably attach to the nonwoven material. Many other types of releasable mechanical fasteners are known. A further type of releasable fastener may be an adhesive type of fastener, whereby a pressure sensitive adhesive is coated on one component and a complementary component is provided to which the pressure sensitive adhesive may adhere. Such releasable attachment means are well known in the field of absorbent products.

In the claims, reference has been made to front and rear portions. The rear portion of an article is that portion which is intended to be placed at the rear of a wearer in use, whilst the front portion is that portion intended to be placed at the front of the wearer during use. However, it will be apparent to one skilled in the art that the front and rear portions can be inverted and that the front and rear side flaps described below may thus be fitted to either of the front and rear portions without altering the underlying nature of the invention.

Brief description of the drawings

The invention will now be explained in more detail with reference to certain non-limiting embodiments thereof and with the aid of the accompanying drawings, in which:

Fig. 1 shows a plan view of an absorbent product according to the invention in an opened-out condition, before the side flaps of the diaper have been fixedly attached together,

Fig. 2 shows a side view of an absorbent product according to the invention similar to that in

Fig. 1, in which the side flaps having been fixedly attached together by means of a weld,

5 Fig. 3 shows a view from above of an absorbent product according to Fig. 2, showing the connections of the various layers before rupture of the side attachments,

10 Fig. 4 shows a view similar to that in Fig. 3, of a product in which the front side flaps are additionally provided with lines of weakening which have been ruptured,

15 Fig. 5 shows a cross-sectional view through a laminate material which may be used in the front and/or side flaps,

20 Fig. 6 shows a series of steps, from top to bottom in the drawing, exemplifying the method of the present invention,

25 Fig. 7 shows a view from above, of one half of a further embodiment of a side closure arrangement,

 Fig. 8 shows a further embodiment in a view from above similar to that in Fig. 7, depicting the overlapped portions of the side flaps,

30 Fig. 9 shows an embodiment of the second (laterally outer) portion of the outer side flap in Fig. 8, in a view from above and enlarged,

35 Fig. 10 shows a further embodiment of the invention in a view from above similar to Fig. 8,

- Fig. 11 shows a further embodiment of the invention in a view from above similar to Fig. 10,
- 5 Fig. 12 shows a further embodiment of the invention in a view from above similar to Fig. 11,
- Fig. 13 shows a side view of the embodiment in Fig. 12,
- 10 Fig. 14 shows a side view of a further embodiment of the overlapped side flaps,
- Fig. 15 shows a further embodiment in a view similar to that in Fig. 14,
- 15 Fig. 16 shows a still further embodiment of the invention in a view similar to that shown in Fig. 15,
- 20 Fig. 17 shows an embodiment of the invention similar to that shown in Fig. 15, depicting particular dimensions,
- 25 Fig. 18 shows two steps (a) and (b) of a test method for measuring peel strength, and
- Fig. 19 shows a further embodiment of the invention in a view similar to that shown in Fig. 17, provided with an additional child-safety closure.
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Detailed description of preferred embodiments:

In Fig. 1, the absorbent product is shown in a flattened state with the inner side of the absorbent product

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uppermost. The absorbent product comprises three portions, a rear portion 1, a front portion 2 and a crotch portion 3 extending between these portions. The length of the portions is not precise, but generally each of these portions occupies about one third of the length of the product in a flattened condition. The rear portion 1 has an edge 42 at its outer end and the front portion 2 has an edge 43 at its outer end. In the depicted condition, a longitudinal axis Y-Y and a lateral axis X-X are shown, these axes extending generally perpendicular to each other, the longitudinal axis extending generally between the middle of the rear portion 1 of the product and the middle of the front portion 2 of the product.

It should be observed that Fig. 1 depicts the absorbent product in a condition before the product has been fixed together in its final (prefastened) state, i.e. before the front side flaps 6, 7 and rear side flaps 8, 12 and 9, 13 have been overlapped and fixedly as well as refastenably attached together (the overlapped and attached arrangement will be explained further below).

The absorbent product includes an absorbent product chassis member comprising at least a back sheet 4 and a top sheet 5. The back sheet 4 is preferably impervious to liquids. The top sheet 5 is a liquid permeable layer. Materials suitable for these layers are well known and typically the back sheet layer 4 may be formed entirely from or including a polyethylene (PE) film. Such a back sheet may for example be a textile-like back sheet formed from a laminate of PE and spunbonded polypropylene (PP) nonwoven material, where the PE has for example a surface weight between 12 g/m² and 20 g/m² and the PP has a surface weight between 10 g/m² and 20 g/m². The top sheet layer 5 may be formed from a nonwoven polypropylene (PP)

fibrous web (e.g. a spunbonded PP web) for example. Sandwiched between the back sheet layer 4 and the top sheet layer 5 is an absorbent core 37, the absorbent core comprising a batt of e.g. cellulosic fibres, preferably mixed with superabsorbent material in a homogeneous, or layered distribution or in a distribution which varies in the depth direction and/or in the major plane of the core. The absorbent core may take many shapes and forms and may consist of several layers with differing properties so as to improve absorption characteristics. The back sheet and top sheet layers 4, 5 are preferably of equal size and are preferably sealed to each other around their peripheries in a manner known in the art.

Elasticated waistband means 38, 39 are preferably provided at each end of the absorbent product chassis member and serve to provide a means of improved comfort, fit and containment in the product. Such elasticated waistband means are well known in the art. The elastic waistband means 38, 39 are shown as lying outside the absorbent core 37, although it will be understood that they may partially cover the area bounded by the absorbent core 37. Similarly, the waistband means may extend up to the longitudinal side edges 40, 41 and/or up to the end edges 42 and 43.

Further elements can of course also be included in the absorbent product even though these are not shown in the Figures. Such elements include for example leg elastics to provide a better fit around the wearer's upper legs, standing gathers, edge gaskets as well as other barriers and seals to prevent leakage.

Two front side flaps 6 and 7 are provided. Each side flap is formed as a single piece in the embodiment shown,

although a plurality of pieces laterally or longitudinally in series, or a plurality of layers or panels e.g. in series or partially or fully overlapping, may be used to form each side flap. In the preferred case
5 a single piece may be used comprising a plurality of layers, one of which is elastic. The side flaps are each formed with an elastic portion, such as provided by an elastic laminate. The elastic portion may extend so as to cover the whole area of flaps 6 and 7, but preferably
10 should at least cover the area thereof which lies outside the edges 40, 41 of the chassis up to the laterally outward edge of the flaps 6 and 7. Each front side flap 6, 7 is fixedly attached (by welding, adhesive, stitching or other known methods of fixed attachment) to a
15 respective side of the chassis member at attachment locations 35 and 36, preferably on to the external surface of the back sheet 4 as shown. However it should be understood that the side flaps 6, 7 may be attached to the internal or external surface of the top sheet 5 or
20 the back sheet 4 if desired, or to both the back sheet 4 and top sheet 5. A still further possibility is that either the back sheet 4 or the top sheet 5, or a part thereof, may itself be included as part of the side flaps and thus form one of the layers of material constituting
25 the side flaps 6, 7, 8, 12, 9, 13 (this variation will also be explained below in respect to a further embodiment similar to that shown in Fig. 5).

At the rear portion of the absorbent chassis, there are
30 two rear side flaps 8, 12, 9, 13. In the preferred embodiment shown, the rear side flaps are separate flaps comprising a first portion 8, 9 and a second portion 12, 13. The second portion 12, 13 is fixedly attached (by welding, adhesive, stitching or other known methods of
35 fixed attachment) to the respective first portion 8, 9 at

attachment locations 26 and 24 respectively on the external surfaces 20, 20' of the first portions. Each second portion 12, 13 is fixedly attached at a location laterally outwardly of the attachment locations 23 and 27, such that the second portions 12, 13 lie laterally outwardly with respect to the rear side flap first portions 8, 9.

Each of the second portions 12, 13 in such a structure is not intended to lie directly against the skin of the wearer (see Fig. 3 explanation below) and thus the second portions 12, 13 may be formed stiffer than the first portion, e.g. by using a stiffer material for the second portions 12, 13. The second portions are each preferably formed to be inelastic. Being inelastic allows the second portions 12, 13 to provide a more stable panel structure avoiding any folding or wrinkling effects for example.

An arrangement with two portions 8, 9 and 12, 13 is not however limiting for the invention, as long as a portion of the flaps are elastic. Thus the rear side flaps may each be composed of only a single portion, or in a further embodiment of three or more portions. Each of the rear side flaps is fixedly attached (by welding, adhesive, stitching or other known methods of fixed attachment) to a respective side of the chassis member at attachment locations 23 and 27, preferably on the external surface of the back sheet 4 as shown. However it should be understood that the side flaps 8, 12 and 9, 13 may be attached to the internal or external surface of the top sheet 5 or the back sheet as desired, or to both the back sheet 4 and the top sheet 5.

In the preferred embodiment shown using two portions, at least a substantial part of the area of the first portion

8, 9 is formed of elastic material, and preferably the whole area of the first portion 8, 9 is formed of elastic material, such as an elastic laminate material. In a more preferable embodiment which avoids waste of elastic material without reducing elasticity, the elastic material is placed in that area of the first portion 8, 9 lying outside the attachment zone 23, 27 up to the attachment zone 24, 26 (i.e. in the portion of the flap which is free for elastic extension).

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Each of the rear side flaps carries one member of a releasable fastening means 10, 11 at its outer end. Each member 10, 11 of the releasable fastening means in the shown embodiment is preferably constituted by a hook-type member preferably in the form of a strip of hook-type material extending between the upper and lower edges of the second portions 12 and 13 of the rear side flaps. Although a single strip is shown, several strips may instead be used, which can then be intermittently spaced from one another in a vertical direction. Similarly, the vertical extent of the members 10, 11 is shown as extending almost the whole longitudinal length of the side flap portions 12, 13 leaving a suitable distance from the upper and lower edges of the flap portions for manufacturing tolerances. Preferably the longitudinal length of members 10, 11 on the rear side flaps is between 25% and 75%, preferably between 25% and 60%, of the longitudinal length of the front side flaps 6, 7 at the intended attachment location thereon. This substantially avoids any contact of the member 10, 11 with the body. The members 10, 11 may however extend the whole length of the flap portions 12, 13.

It is however preferred that where hook and loop members are used, the loop member of the releasable attachment

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means should have a larger surface area than the hook member.

5 Similarly, the outer portions 12, 13 of the rear side flaps may consist entirely of nonwoven loop material, requiring thereby that a hook member be positioned on the outer surface of the inner (front) side flap in the overlapped condition.

10 These members 10, 11 are adapted to releasably engage with corresponding members 15, 16 of the releasable fastening means on the front side flaps 6 and 7. If the second portions 12, 13 are made relatively stiff compared to the first portions as explained above, this will allow
15 them to provide a more stable base for the strip members 10 and 11 and thus can assist in forming a more reliably attached and more easily handled releasable fastening arrangement.

20 In the embodiment shown, the front side flaps themselves include an external covering material to which the members 10, 11 can releasably be fastened, although, if desired, separate additional strips of material, e.g. loop material pieces (not shown) may be added. An example
25 of an elastic laminate suitable for this purpose will be explained further below with regard to Fig. 5.

Although it is shown in the drawings that the front and rear side flaps are separate pieces from one another, it
30 will however be understood by the skilled person that the front and rear side flaps on each respective side of the chassis member may be formed as a single continuous member, attached along the entire respective side edges 40, 41 of the chassis member. Alternatively, the rear
35 side flaps and the front side flaps may remain as

separate members in the manner shown in the Figures, but may be extended in the longitudinal direction to simply overlap each other in the area of the crotch region 3.

5 Similarly, although the rear side flaps 8, 12 and 9, 13 and the front side flaps 6, 7 are shown as being separate members fixedly attached at respective longitudinal side edges 40, 41 of the chassis member rear portion 1 and front portion 2, the rear side flaps could alternatively
10 be combined as a single separate piece (not shown) extending laterally across the rear portion 1 and extending as side flaps beyond the longitudinal side edges 40, 41 of the chassis member. Similarly the front side flaps 6, 7 could be formed by a single separate
15 piece (not shown) attached laterally across the front portion 2 of the chassis member.

In order to form the absorbent product of the invention, a fixed, welded attachment has to be provided between the
20 front side flaps 6, 7 and the respective rear side flaps 8, 12 and 9, 13 in the prefastened condition. In order for this to occur, the chassis member must be folded at some stage, substantially along or parallel to the lateral axis X-X, such that the front and the rear side
25 flaps can overlap. In an alternative embodiment, the front side flaps and rear side flaps can however be made to first overlap and then be welded, before folding of the chassis member, and then the rear and/or front side flaps attached to the chassis. This is also explained
30 with respect to the various steps and various order of steps of manufacture described further below.

The form of the overlap is important to provide good seam security, good comfort and to allow a high degree of
35 elasticity. The overlap required is shown externally in

Fig. 2 and from above in more detail in Fig. 3 and 4 for example. As these Figures show, each one of the front side flaps 6, 7 is fixedly welded to a respective one of said rear side flaps 8, 12, and 9, 13 such that the outer surface 18, 18' of each one of the front side flaps 6, 7
5 lies against the inner surface 19, 19' of a respective rear side flap 8, 12, and 9, 13.

In Figs. 2 and 3, it can be seen that the area of the weld 21, 22 is formed at the end portion of the first
10 portions 8, 9 and the end portions of the corresponding front side flaps 6 and 7, so as to fixedly (i.e. non-releasably) join these portions together. In this regard the term "end portion" refers to that portion of each
15 front side panel which overlaps each rear side panel first portion 8, 9. Such an overlap may be of the order of 0.5 to 3.5 cm and preferably between 0.5 and 2 cm.

In the closed condition as shown in Figs. 2 and 3, it can
20 be seen that the releasable fastening means 10, 11 on the second portions 12 and 13 are already in contact with the corresponding fastening members 15, 16 of the outer surface 18, 18' of the front side flaps 6, 7. Thus a strong force is provided preventing separation of the
25 front and rear side flaps, consisting of the force provided by both the releasable fastening means 10, 11, 15, 16 and the welds 21, 22.

Since the flaps 6, 7 lie against the wearer's skin, it is
30 preferable if the outer edges of these are formed so as to be soft. Where for example the front side flaps 6 and 7 are formed of an elastic laminate having nonwoven outer surface material such as spunbonded PP, this edge can clearly be soft without the addition of further outer end
35 edge arrangements.

Moreover, due to the overlapping relationship of the front and rear side flaps, with the inner surface of one lying against, and welded to, the outer surface of the other, the forces acting from the wearer during movements (e.g. sitting, standing etc.) to separate the front and rear side panels at the welds 21, 22 are not peeling forces as in much of the prior art, but instead are shear forces. Since it is easier to rupture an area of fixed attachment such as a seam by peeling than it is by applying shear forces, it will therefore be apparent that it is extremely difficult to rupture the area of attachment by the movements of the body. Therefore a reliable seal is provided.

The provision of a reliable seal by this overlap structure thus allows attachment forces to be used which have a force value against peeling of less than 1000g/inch (394g/cm), as measured by the method disclosed in GB-A-2 267 024. Thus attachment forces having a peeling strength force of less than 350g/cm and preferably less than 300g/cm, more preferably less than 200g/cm can be used.

At the same time, it will be observed that in the preferred embodiments shown only two panels are included in the area of the welds 21, 22, namely the front side flaps 6, 7 and the rear side flap first portions 8, 9. This allows a reliable and easily controllable seam to be made. Furthermore the product is more comfortable to handle and wear than products where the front and rear parts of the absorbent pants are attached at their sides in a flush arrangement, since there are no relatively rigid parts pointing outwardly. Further panels can of course be included.

In one embodiment, the second portions 12, 13 of the rear side panels are fixedly attached (by welding, adhesive, stitching or other known methods of fixed attachment) at attachment locations 26, 24 to the first portions 8, 9, which locations 26, 24 are laterally outward of the areas of welds 21, 22 as seen with respect to the lateral axis and with respect to the rear portion 1 of the chassis. However, it will be understood that the attachment locations 24, 26 may be laterally inward of the areas of the welds 21, 22 if desired, whilst still allowing only two panels to be used in the welds 21, 22. This can be arranged for example by fixedly attaching the panels 12 and 13 after first forming the welds 21, 22. The attachment area of portions 12 and 13 to portions 8 and 9 could however also be made to coincide with the welds 21 and 22 and the welds 21, 22 may also be made such as to extend through all three panels (i.e. front side flaps 6, 7, rear side flap first portions 8, 9 and second portions 12, 13). This is easily possible, even if less desirable, since the strength of the weld for resisting peel forces need not be so great due to the provision of the overlapped inner and outer surfaces of the side flaps. No more than four material layers should however be included in the welded regions, preferably no more than three, and most preferably only two. In whichever way the weld 21, 22 is formed, it is important that the weld is placed laterally inwardly with respect to the releasable fastening means 10, 11 at the outer ends of the rear side flaps proximate the outer end edges 44, 45 thereof, such that the weld 21, 22 in each of the rear side flaps 8, 12, 9, 13 lies laterally inwardly with respect to the releasable fastening means 10, 11 positioned on its respective rear side flap.

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In other words, in the embodiment shown where the rear side flaps 8, 12, 9, 13 overlap the front side flaps 6, 7, the rear flaps form an outer side flap and the front side flap forms an inner side flap of the whole side closure structure. The releasable fastening means 10, 11 is thus positioned closer to the outer edge 44, 45 of the outer flap than the weld 21, 22.

Also, the position of the weld with respect to the elastic portions is important in order to give a maximum degree of elasticity to the side closure structure. In this regard the weld 21, 22 should be positioned proximate the laterally outer edge of the elastic portion of at least one of the front and rear side flaps 6, 7, 8, 12, 9, 13. In this way, there is little or no elastic material which remains inactive outside the welds 21, 22 and thus the maximum amount of elastic material is available for providing the required elasticity in the side closures.

In the embodiment shown, the welds 21, 22 are positioned proximate the laterally outer edge 48 of each of the front side flaps 6, 7, each of the front side flaps being elastic. The welds 21, 22 are also placed proximate the laterally outer edge 47 of the elastic portion (first portion 8, 9) of each of the rear side flaps. In this way, the area of elastic material which is elastically inactive is kept to a minimum thereby allowing the maximum lateral extent of elastic material to be fully used in both front and rear side flaps. In terms of the meaning "proximate" in this regard, this means less than 1.5 cm from the end edge of the elastic portion. It is however preferred if the distance is less than 1 cm and still more preferable if the distance is less than 0.5 cm.

As shown in Fig. 2, the weld 21 extends between the upper edge of front side flap 6 and the lower edge of same. Preferably the area of the weld extends the entire distance between these upper and lower edges and the line of weld tool application may even extend beyond the upper and lower edges. The attachment area may however be shorter, although the advantage with an extension all the way between the upper and lower edges is that the product has no loose side flap corners which may possibly fold over and become unsightly during storage. Similarly a more secure/stable fit during use is obtained by arranging the weld to extend all the way between the upper and lower edges. This can be important when the elastic portions are placed between the welds 21, 22 and each of the side edges 40, 41.

When the absorbent product, in the form of disposable pants as shown in Fig. 2, are to be inspected to check whether they have been soiled, or when they are to be removed entirely, it is convenient if the entire pants do not have to be removed over the wearer's legs and feet. Thus the areas of attachment provided at welds 21, 22 simply have to be ruptured by being peeled open. This destroys the welded seal and does not allow reclosure. This can be done in any suitable way, preferably however by gripping and pulling rearwardly the free edge of the side flap second portion 12, 13 lying in front of the releasable attachment member 10, 11 while at the same time holding the front flap 6, 7 with the fingers of the other hand. The attachment welds 21, 22 will thus be peeled open vertically by the application of peeling forces thereto.

In an alternative embodiment shown in Fig. 4, a line of weakening 33, 34 can additionally be provided in each front side flap 6, 7, extending at least part way between the upper and lower edges of the respective front side flaps 6, 7 and at a location laterally outwardly of the respective attachment area 21, 22. In a manner similar to that described above, the front side panels and the rear side panels are separated, this time however by rupturing the front side flaps 6, 7 along the lines of weakening 33, 34. The lines of weakening in this regard may also be formed by the outer margin of the areas of welds 21, 22 for example as a result of the welding process in which the outer edge of the weld can be made to provide a weakened area on the inner, front side flap 6, 7.

Whichever of the structures in the various embodiments is used, the absorbent pants will become separated at the side portions by rupture (either by peeling and/or tearing of the seals and/or by tearing of the front side flaps).

Once inspected, if the absorbent product is not soiled it can be re-attached to the user by re-closing it. For this re-closure, the releasable fastening means 10, 11, 15, 16 are used, whereby the respective first member 10, 11 of the releasable fastening means is simply pressed into contact with the outer surface 18, 18' provided with the second member 15, 16 of the releasable fastening means. If desired, these releasable fastening members 10, 11, and 15, 16 may be attached and detached from one another several times.

While the side flaps may be formed of any suitable structure including an elastic portion, a preferred structure is one having nonwoven material 30, 32 on both

the inside and outside surfaces thereof. In this way, the side flaps feel relatively comfortable against the skin of the wearer and at the same time provide an external surface to which one member 10, 11 of the releasable fastening means can attach. In a further embodiment (not shown) one or more of the layers of nonwoven material could be constituted by a nonwoven layer which is integrally included as part of the top sheet 5 and/or back sheet 4 structure.

10 In a particularly preferred embodiment, the front side flaps 6, 7 and/or the rear side flaps (i.e. portions 8, 9 only) may comprise an elastic laminate as shown for example in cross-section in Fig. 5. In such a laminate, a central elastic lamina material 31 is used. Such an elastic laminate may have an elastic extensibility at least in the lateral direction of over 100%, preferably over 150%, and even more preferably between 200% and 350%. Elastic materials able to produce this elasticity in the final laminate are well known in the art of absorbent products. These may include for example, elastomers made from block copolymers such as polyurethanes, copolyetheresters, polyamide polyether block copolymers, EVAs (ethyl-vinyl-acetates), elastomeric styrene-butadiene copolymers, tetrablock copolymers, including styrene-poly(ethylene-propylene) elastomeric block copolymers, polyamides, or natural and synthetic rubber materials, etc. One suitable elastomer is for example Extraflex™ CEX 802WR having a surface weight of 54g/m², available from Tredegar film products.

Due to the overlapping nature of the front and rear side flaps, which may occupy between 0.5 cm and 3.5 cm lateral length in each side closure, the overlapped area will be relatively inelastic. Without high elasticity material

constituting the side flap and having at least 100% elasticity (i.e. can be stretched elastically by more than 100% compared to its original length without substantial permanent strain), the elastic material of the respective side flaps lying between the overlapped panels and the edges of the chassis is not able to fully meet the requirements for good fit and comfort for all intended users.

Inelastic members used in this invention such as nonwoven materials, may comprise a continuous or discontinuous sheet, web, layer or fabric for example, which member can be stretched elastically by only small amounts, normally of the order of between 1 to 15%, but typically less than 10%. Such materials may be spunbonded, carded nonwovens or meltblown materials. The fibres can be e.g. polyolefins such as polypropylene or polyethylene. The fibres can also consist of mixtures of different polymers. Suitable nonwoven materials can also consist of several different nonwoven layers such as spunbond-meltblown-spunbond (SMS) laminates. A concrete example is a spunbonded material of polypropylene fibres where the material has a surface weight which can be arranged to lie between 12 and 30 g/m², and having a fibre thickness of between 0.5 and 5 dtex.

Attached on either side of the elastic lamina in a stretched condition are relatively inelastic nonwoven material webs. After attachment, when the elastic laminate is allowed to return to its relaxed state, the attached nonwoven webs contract and form a lightly corrugated surface, with air pockets between the corrugations, thus providing a comfortable feel.

In a variation (not shown) of the embodiment depicted in Fig. 5, the nonwoven material layer 30 or 32 of the side flap may be constituted by an extension of the material in the top sheet 5 and/or the back sheet 4. For example, the back sheet 4 may be formed of a laminate structure (not shown) of a nonwoven material layer and a polymeric film material layer, whereby an extension of the nonwoven material layer of the back sheet could then be used to form either layer 30 or layer 32 of the side flap. Similarly, where one outer layer 30 or 32 is formed by nonwoven material of e.g. the top sheet, the other outer layer 32 or 32 may be formed by nonwoven material of the back sheet or a separate sheet of material. Additionally, whilst the use of nonwoven materials is preferred, other inelastic materials can of course be used both in the top sheets and/or back sheets and then be extended so as to form at least one of the non-elastic materials in the side flaps.

The product of the invention may be formed in a variety of ways. However, in accordance with the method of the invention a method has been devised which allows the areas of attachment 21, 22 between the front and rear side flaps to be formed easily with the product lying in a flat condition. In this way, forming the areas of attachment 21, 22 is facilitated, especially where the area of attachment 21 is formed by welding.

Fig. 6 shows a series of operations which need to be carried out to produce an absorbent product. Only one side of the product is shown although the operations on the opposite side are the same. The order of operations although shown as (a) to (d) in Fig. 6 can however be varied to some degree as will be understood from the following.

In order to aid understanding, like reference numerals have been used to denote corresponding parts described with respect to the product of the invention, however
5 with the addition of the letter "a" after the numerals.

The production flow is intended to be from step (a) to step (d) in the Figure. In step (a) a first portion 9a of a first side flap member (e.g. rear side flap) is shown
10 with its inner surface 19a uppermost and fixedly attached to a second portion 13a. The attachment of these two portions can occur at the moment they are placed one upon the other (e.g. by adhesive) or it can occur subsequently thereto such as by welding for example.

15 In step (b), an absorbent product chassis member having a top sheet 5a shown uppermost and a back sheet 4a underneath, is laid on the first portion 9a and fixedly attached thereto at an area 23a at one end portion of the chassis member, such that it extends laterally outwardly
20 from a side edge 40a of the chassis member. It is also possible, in an alternative embodiment (not shown), to arrange the first portion 9a to be located between the top sheet 5a and the back sheet 4a and thus conceal the joint 23a between the top sheet 5a and back sheet 4a.
25 This can be done for example by first laying down the back sheet 4a, then attaching the flap portion 9a, then applying the absorbent core and then adding the top sheet 5a.

30 As will also be clear, the chassis member may however be placed first on the production line, followed then by the flap member 9a, 13a if desired, i.e. a reversal of steps (a) and (b). A first portion of a releasable fastening
35 means 11a is added as a strip or the like, as described

previously, to the end of the first (rear) side flap. This may be in either step (a) or step (b) for example.

5 In step (c) the second side flap member 7a is added (e.g. the front side flap 7), with its inner surface 17a upwards and its outer surface facing downwards, whereby the second member 15a of the releasable fastening means is on that downward facing side. In this condition, the inner surface 19a of the first side flap member 9a, 13a
10 lies in an overlapping relationship against the outer surface of the second side flap member (7a) in a flat (i.e. unfolded) state. The fixed attachment area 21a is then formed, for example by welding at the rectangular area indicated by 21a, whereby it is noted that the weld
15 extends between the upper and lower edges of the first and second side flaps.

At this stage, first end portion 1a (e.g. the rear end portion 1) and the second end portion 2a (e.g. the front
20 end portion 2) of the chassis member are still in a flat condition. Thus in order to form the closed product, the portion 2a needs to be folded on to the portion 1a and the second flap member 7a needs to be fixedly secured to the second end portion 2a.

25 This folding operation can be done either by starting at step (c) and then in step (d) folding portion 2a onto portion 1a, and then folding the second flap member 7a over the first flap member 9a, 13a and thus into contact
30 with the outer (back sheet 4a) surface of end 2a. Alternatively, the second flap member 7a can be folded over the first flap member 9a, 13a and then the end portion 2a folded over on top of the outer surface of the second flap member 7a and thus into contact with the
35 inner (top sheet 5a) surface of end portion 2a.

In either condition, the end of the second flap member 7a is then fixedly secured at location 36a to the second end portion 2a of the chassis member. Preferably such
5 securement is performed by using adhesive on the cooperating surfaces of the flap member 7a and the second end portion 2a of the chassis member, although other methods of fixed attachment may also be employed.

10 In a still further embodiment, the attachment of the first flap member 9a, 13a to the second flap member 7a at the attachment area 21a (i.e. as in part of step (c)) can be performed without the chassis member being present. The chassis member can then be fixedly attached at
15 attachment location 23a and attachment location 36a.

In a still further embodiment, before performing step (d), the flap 7a can first be folded before the chassis itself is folded, and only then attached at area 36a. In
20 this way, the attachment 36a is positioned on the inside of the product and not visible.

Fig. 7 shows a further embodiment of the invention in a view from above, similar to that in Fig. 3, wherein
25 however only one side is shown (the other side being substantially a mirror image) and wherein the rear part 1 of the diaper is lowermost. In this Figure, the first side flap portion 8 and the front side flap 6 is elastic between the attachment location 27 and the end edge 47
30 and the attachment location 35 and the end edge 48 respectively, side flap 6 and first portion 8 preferably consisting entirely of an elastic laminate. The second portion 12 is entirely inelastic. The front side flap 6 has, on its outer surface and fixedly attached thereto,
35 one member 46 of a releasable attachment means in the

form of a strip, the strip being elongate in the longitudinal direction Y-Y (i.e. in a plane perpendicular to the plane of the paper in the same way as members 10 and 11 as shown in e.g. Fig. 2 are elongate). The cooperating member 10 of the releasable fastening means is fixedly attached to the inelastic portion 12 of the rear side flap.

The weld 21 thus passes through the elastic portions proximate the distal (laterally outward) ends thereof. In this way, only two components need be attached together. Similarly, since the weld 21 is at the ends of each elastic portion in the small overlapped area between end edges 47 and 48, the elastic flap material between weld 21 and attachment location 27 remains active for elastic extension. In the first side flap 6, the portion thereof remaining active for elastic extension is, in this case, that portion which extends between attachment location 35 and the location 49 at which the laterally inner end of strip member 46 is attached to the side flap 6.

To further improve the amount of elastic material available for elastic stretching, the non-elastic portion of the side closure, i.e. between line 49 and weld 21 must be kept to a minimum. The distance between line 49 and weld 21 should be such that this distance occupies a maximum of one third of the elastic part of the side closure (i.e. the distance between attachment location 35 and line 49 added to the distance between line 21 and attachment location 27, in the unstretched condition). Preferably this distance should be between 0.5 and 3.5 cm. Similarly, in the unstretched condition, the length of the elastic portion (that portion between attachment locations 35 and 49 and between 27 and weld 21) of the whole side closure, should be greater than 75% of the

length of the side closure (i.e. the distance between attachment locations 27 and 35 in the prefastened condition). The elastic extensibility of the side closure between locations 27 and 35 including the elastic and inelastic parts joined together, starting from a non-stretched starting length of the side closure, should be greater than 80% and preferably greater than 100%.

If the member 46 is not present, the member 10 should thus attach directly to the outer surface 18 of side flap 6, then the non-elastic portion would be between weld 21 and the location where member 10 attaches to the outer surface 18.

The member 10 can for example be of loop material and the cooperating member 46 of hook material, or vice versa. Inwardly facing hooks are however preferable, since this allows easier disposal in a closed condition. It is also possible to construct the inelastic second portion 12 entirely of loop material and then member 46 to be of hook material to engage therewith.

Fig. 8 and Fig. 9 show a further embodiment of the invention, similar to that described in relation to Fig. 7, whereby the inelastic portion of the rear side flap (second portion 12) is formed not by a separate piece of material being attached to the outside of the first portion as in the embodiments of e.g. Figs 1 to 4, but instead by the elastic lamina 31 of the elastic laminate material (see also Fig. 5) being terminated at an end 50 which lies laterally inside end 44. Thus, distance "a" is inelastic and corresponds to the inelastic portion 12.

In the embodiment shown in Fig. 10, this differs from that shown and described with respect to earlier

embodiments in that the inelastic second portion 12 is located and fixedly attached to the inner surface 19 of first portion 8.

5 In the embodiment shown in Fig. 11, the second member 12 is formed as a U-looped strip, whereby the open ends of the "U" are fixedly attached e.g. by welding or adhesive for example, to the laterally outer end 47 of the first portion 8 at attachment locations passing through line
10 51. In this way the second portion 12 will be more safely attached to the first portion 8 and the risk of separation of the portions 8 and 12 is reduced at the same time as providing a softer outer edge.

15 In the embodiment of Fig. 12, a further possible form of the inelastic second portion 12 is depicted, in the form of a gripping pocket which allows the fingers of a hand to be inserted into the U-shaped loop for opening or refastening the product (the U-shaped loop being attached
20 at e.g. its upper and lower longitudinal edges for example as shown in Fig. 13 at fixed attachment locations 52 and 53 (e.g. welds)). In this way, the user can insert one or more fingers between the attachment areas and use this as a gripping means to open the reclosable fastening
25 means 10, 46 and/or as a means for peeling or tearing the first portion 8 away from the inner flap 6 at the weld 21. A user can similarly insert a finger between the round end 54 of the loop and the attachment locations 53 or 52 if the loop is made sufficiently long. As will also
30 be apparent, either one of the two fixed attachments 52 or 53 could be omitted, which still allows a finger to be inserted into one corner area of the pocket. Many further modifications of such a gripping pocket by alternative means and locations of attachment will be apparent to a
35 skilled person.

In the embodiment of Fig. 14, which is a partial side view of the side closure showing overlapping panels 6 and 8, 12, the inelastic portion 12 is made to be gradually reduced in length moving laterally outwardly along the rear side flap 8, 12 to the end edge 44, so as to provide a laterally outwardly tapering lower edge. The member 10 may however maintain an elongate rectangular form. In this way a smoother transition between the lower edge of portions 8 and 12 is provided (when compared to e.g. the Fig. 1 embodiment) which provides a comfort improvement on the wearer's legs and reduces the amount of waste material at the same time.

The embodiment of Fig. 15 is similar to that of Fig. 14, differing however in that the member 10 is also made to taper towards the laterally outer edge 44. In this way, the second portion 12 can maintain the advantages described above and the member 10 can be spaced from the edges of the second portion 12 yet still use the maximum area for providing an attachment surface, which is important so as to allow a more secure fastening when the weld 21 is broken.

In the Figure 16 embodiment, the fixed attachment in the form of weld 21 is formed by a series of weld points, e.g. spot welds 55, whereby the strength of the weld is made to increase from an upper edge of the side closure to a lower edge of the side closure. In this way, the weld 21 which forms the fixed attachment can be easily opened at the top edge, but still provides the overall required strength and the security to hold the prefastened product on the wearer. Additionally, this type of weld avoids the need for use of an intermittent tugging force being applied to open the weld when a

helper removes the product from a child for example, which is typically the case with welds which are of the generally the same strength along the majority of their length. The strength is made to increase in Fig. 16 by
5 using for example larger weld areas and/or increasing the proximity of adjacent weld points as seen in a direction moving from the upper edge to the lower edge.

Various alternative forms of welds 21, 22 may be used to
10 form the fixed attachment between the side flaps, in which a pattern of weld bonding points is used (e.g. such as bonding points in the form of spot welds 55 as in Fig. 16). A "welded area" be defined as being the smallest rectangle which encloses all the individual surface areas
15 of the weld bonding points. In order to provide superior opening properties of the weld when desired, the combined individual surface areas of all the bonding points in a welded area should be made to be less than 50% of the welded area as defined by the rectangle. This may also be
20 used in the case shown in Fig. 16 and other embodiments of course. In preferred embodiments the combined individual surface areas may be less than 40%, less than 30%, less than 20% or even less than 10% of the welded area defined by the rectangle.

25 In Figure 17, the overlapping side panels 8, 12 and 6 are again depicted and a distance "b" has been indicated. The distance "b" is the total overlapping width of the two laterally outer end edges 44 and 48 of the rear and front
30 side panels respectively. This distance "b" should lie between 0.5 cm and 4 cm and preferably between 0.5 cm and 3 cm and even more preferably between 0.5 cm and 2 cm. Similarly, the width "c" of the second portion 12 should be greater than 50% of the overlapping width "b".

In such a way, the amount of elastic material which is not active elastically is minimised.

Fig. 17 also indicates a further distance "d" between edge 44 and the laterally outer edge of element 10 attached to second portion 12. This distance may be defined as a gripping distance "d". The gripping distance is the distance which can be used to grip the end of the second portion in order to open the reclosable fastening (formed by members 10 and 18 or 10 and 46 for example) between front and rear side panels. Distance "d" should be less than 7 mm in order to prevent younger users from trying to open the reclosable fastening. To provide additional protection against opening a gripping distance of less than 5 mm or even less than 3 mm can be used. However, different levels of opening force should be observed in order to provide child safety features yet still allow opening in a reliable manner by most adult helpers, and in a comfortable manner for the wearer.

Experiments on this matter have shown that a child-safe closure can be produced when a gripping distance of up to 7 mm is used, wherein the reclosable fastening should have an opening force against peeling of above 4 N, preferably above 6 N, more preferably above 8 N and even more preferably above 10 N. With a gripping distance below 3 mm, an opening force above 10 N should be avoided. However, at the same time, the opening peeling force on both the reclosable attachment and also the weld 21 should not exceed 20 N, otherwise the wearer is subjected to an intermittent tugging force being applied in order to open the reclosable fastening and/or weld 21, which is clearly unpleasant. Below 20 N, it has now been shown that such intermittent tugging forces are minimised if not entirely avoided, yet at the same time still

provide the required level of force for a safe closure. Even more preferred are arrangements where the maximum opening force is below 15 N.

5 In order to measure the forces required to open a joint in peel (i.e. using peel forces), the test method as illustrated in Fig. 18 steps (a) and (b) is used. The two parts of the closure (e.g. side flap 6 and second portion 12) are attached together e.g. by the reclosable fastening, and a weight is attached to one of the parts e.g. by being clamped to the part over its width. The gripping distance portion "d" is then gripped and lifted slowly and smoothly, in such a way that no jerky movements cause the reclosable joint to separate. If the weight can be lifted and the joint maintained in the situation shown in Fig. 18(b) for more than 30 seconds, it is judged that the joint can support the weight and thus meets a particular level of force determined by the weight. Whilst test machines could be employed to carry out this test, it is important to realise that the test should correspond as far as possible to a real-life situation and thus the test explained above is not only reliable and repeatable but is preferred over any machine test method.

25 Fig. 19 shows a further embodiment of the invention in which increased child safety is provided by arranging one or more additional welds 56 at the outer edge 44 of the rear side flap (i.e. at the outer edge of the second portion 12 thereof, in this embodiment). These welds 56 in particular give the appearance of being permanently closed and so provide a psychological as well as a physical obstruction for a child user.

In the foregoing, a number of embodiments have been described in order to illustrate different aspects of the invention. It is however to be understood that the individual features of one embodiment may however be used
5 with, or in place of, features of another embodiment. In particular, features shown primarily in embodiments of the product per se are clearly to be understood as being included as additional features or alternative features in the method of the invention.

10

Further embodiments of the product and variations of the method will be readily understood by the skilled person upon reading the foregoing and are intended to be encompassed within the scope of the invention as defined
15 by the appended claims.

5

CLAIMS

1. Prefastened absorbent product, said absorbent product comprising a rear portion (1), a front portion (2) and a crotch portion (3) therebetween, a longitudinal axis (Y-Y) passing generally through the middle of the front and rear portions (1, 2) and a lateral axis (X-X) perpendicular to the longitudinal axis (Y-Y), said rear portion (1) including at least two rear side flaps (8, 12, 9, 13) attached therein, each presenting an inner surface (19, 19') and an outer surface (20, 20'), said front portion (2) including at least two front side flaps (6, 7) attached therein, each presenting an inner surface (17, 17') and an outer surface (18, 18'), wherein one member of a releasable fastening means (10, 11; 15, 16, 46) is present on each of said rear side flaps (8, 12, 9, 13) and each of said front side flaps (6, 7) respectively, the members of said releasable fastening means on said front and said rear side flaps (6, 7; 8, 12, 9, 13) respectively being in contact to thereby form a reclosable connection therebetween, and further wherein each one of said front side flaps (6, 7) is fixedly attached by means of a weld (21, 22) to a respective one of said rear side flaps (8, 12, 9, 13) in an overlapping relationship such that the outer surface (18, 18') of each one of said front side flaps (6, 7) lies against the inner surface (19, 19') of each respective rear side flap (8, 12, 9, 13), and wherein the weld (21, 22) in each of said rear side flaps (8, 12, 9, 13)

lies laterally inwardly with respect to the releasable fastening means (10, 11) positioned on said respective rear side flap, and wherein each of said front and said rear side flaps (6, 7; 8, 12, 9, 13) includes an elastic portion, and wherein said weld (21, 22) is positioned proximate the laterally outer edge (47, 48) of the elastic portion of at least one of said front and said rear side flaps (6, 7; 8, 12, 9, 13).

2. Prefastened absorbent product according to claim 1, characterized in that said weld (21, 22) is positioned proximate the laterally outer edge of the elastic portion of both of said front and rear side flaps (6, 7; 8, 12, 9, 13).

3. Prefastened absorbent product according to claim 1 or claim 2, characterized in that said front side flaps (6, 7) and said rear side flaps (8, 12, 9, 13) are fixedly attached to each other by said weld (21, 22) along an area of attachment extending as an elongate welded area between an upper edge (29) and a lower edge (28) of said front side flaps (6, 7) and said rear side flaps (8, 12, 9, 13).

4. Prefastened absorbent product according to claim 2 or 3, characterized in that said area of attachment extends over substantially the whole distance between said upper edge (29) and said lower edge (28) of said front side flaps (6, 7) or said rear side flaps (8, 12, 9, 13).

5. Prefastened absorbent product according to either of claim 3 or claim 4, characterized in that said

elongate section extends generally parallel to the longitudinal axis (Y-Y).

5 6. Prefastened absorbent product according to any one of the preceding claims, characterized in that said elastic portion of said front side flaps (6, 7) and/or said rear side flaps (8, 12, 9, 13) are each formed from an elastic laminate construction, said elastic laminate construction being formed with non-
10 woven material (30, 31) on the inner and outer surfaces thereof.

15 7. Prefastened absorbent product according to any one of the preceding claims, characterized in that said rear side flaps (8, 12, 9, 13) each comprise a first portion (8, 9) fixedly attached to an absorbent product chassis member at a first attachment location (23, 27), and a second portion (12, 13) fixedly attached to said first portion (8, 9) at a second
20 attachment location (24, 26), said second attachment location (24, 26) being positioned laterally outward, with respect to said rear portion (1), of said first attachment location (23, 27), and in that said first member of said releasable fastening means (10, 11;
25 15, 16) is fixedly attached to said second portion (12, 13) and in that said first portion (8, 9) includes the elastic portion of said rear side flap.

30 8. Prefastened absorbent product according to claim 7, characterized in that said second portion (12, 13) is inelastic and is stiffer in bending than said first portion (8, 9).

35 9. Prefastened absorbent product according to claim 7 or 8, characterized in that said second attachment

location (24, 26) lies laterally outward, with respect to said rear portion (1), of said weld (21, 22).

- 5 10. Prefastened absorbent product according to any one of the preceding claims, characterized in that said releasable fastening means comprises a first member (10, 11) on said rear side flaps (8, 12, 9, 13) and a
10 second member (15, 16) on said front side flaps cooperating with said first member (10, 11) to allow releasable attachment, and in that said second member (15, 16) comprises an external surface of one of said front side flaps (6, 7).
- 15 11. Prefastened absorbent product according to claim 10, characterized in that the entire said second portion (12, 13) of the rear side flap is located laterally outward of said weld (21, 22), with respect to said rear portion (1).
- 20 12. Prefastened absorbent product according to any one of claims 2 to 11, characterized in that said weld (21, 22) constitutes a peelable weld, whereby a front side flap (6,7) may be peeled apart from a rear side flap
25 (8, 12, 9, 13) at said weld.
- 30 13. Prefastened absorbent product according to any one of claims 2 to 12, characterized in that a line of weakening (33, 34) is arranged in each of said front side flaps (6, 7) at a location laterally inward, with respect to said front portion (2), of said weld (21, 22).
- 35 14. Prefastened absorbent product according to any one of the preceding claims, characterized in that the

absorbent product is formed as a disposable pants diaper.

15. Method of producing a prefastened, reclosable
5 absorbent product, wherein a first side flap member
(9a, 13a) is fixedly attached at a first attachment
location (23a) to an outer surface (4a) of a first
end portion (1a) of an absorbent product chassis
10 member, so as to extend laterally outwardly from a
side edge (40a) of said chassis member, said first
side flap member (9a, 13a) being provided with one
part (11a) of a releasable fastening means (11a,
15a), and wherein a second side flap member (7a) is
15 attached by welding at an area of attachment (21a) to
said first side flap member (9a, 13a) such that an
inner surface (19a) of said first side flap member
(9a, 13a) is attached in an unfolded overlapping
relationship to an outer surface of said second side
20 flap member (7a), and wherein said second side flap
member (7a) is folded over said first side flap
member (9a, 13a) such that an inner surface of the
second side flap member (7a) faces said inner surface
(19a) of said first side flap member (9a, 13a), and
25 wherein said second side flap member (7a) is then
fixedly attached to said second end portion (2a) of
said chassis member.

16. Method according to claim 15, characterized in that
said second side flap member (7a) is folded over said
30 first side flap member (9a, 13a) after said second
end portion (2a) has been folded onto said first end
portion (1a), and in that said second side flap
member (7a) is then folded onto, and fixed to, an
outer surface of said chassis member.

35

17. Method according to claim 15, characterized in that
said second side flap member (7a) is folded over said
first side flap member (9a, 13a) before said second
end portion (2a) has been folded onto said first end
5 portion (1a), and in that said second side flap
member (7a) is fixed to an inner surface of said
chassis member.

18. Method according to any one of claims 15 or 16,
10 characterized in that said first side flap member
(9a, 13a) is attached to said outer surface (4a) of
said first end portion (1a) after said area of
attachment (21a) is formed between said first side
flap member (9a, 13a) and said second side flap
15 member (7a).

19. Method according to any one of claims 15 to 18,
characterized in that said first side flap member
(9a, 13a) is a rear side flap (9, 13) and is provided
20 with a first member (11a) of a releasable fastening
means, and in that said second side flap member (7a)
is a front side flap (7) provided with a second
member (15a) of said releasable fastening means, said
second member (15a) cooperating with said first
25 member (10, 11) and allowing releasable fastening.

FIG. 1

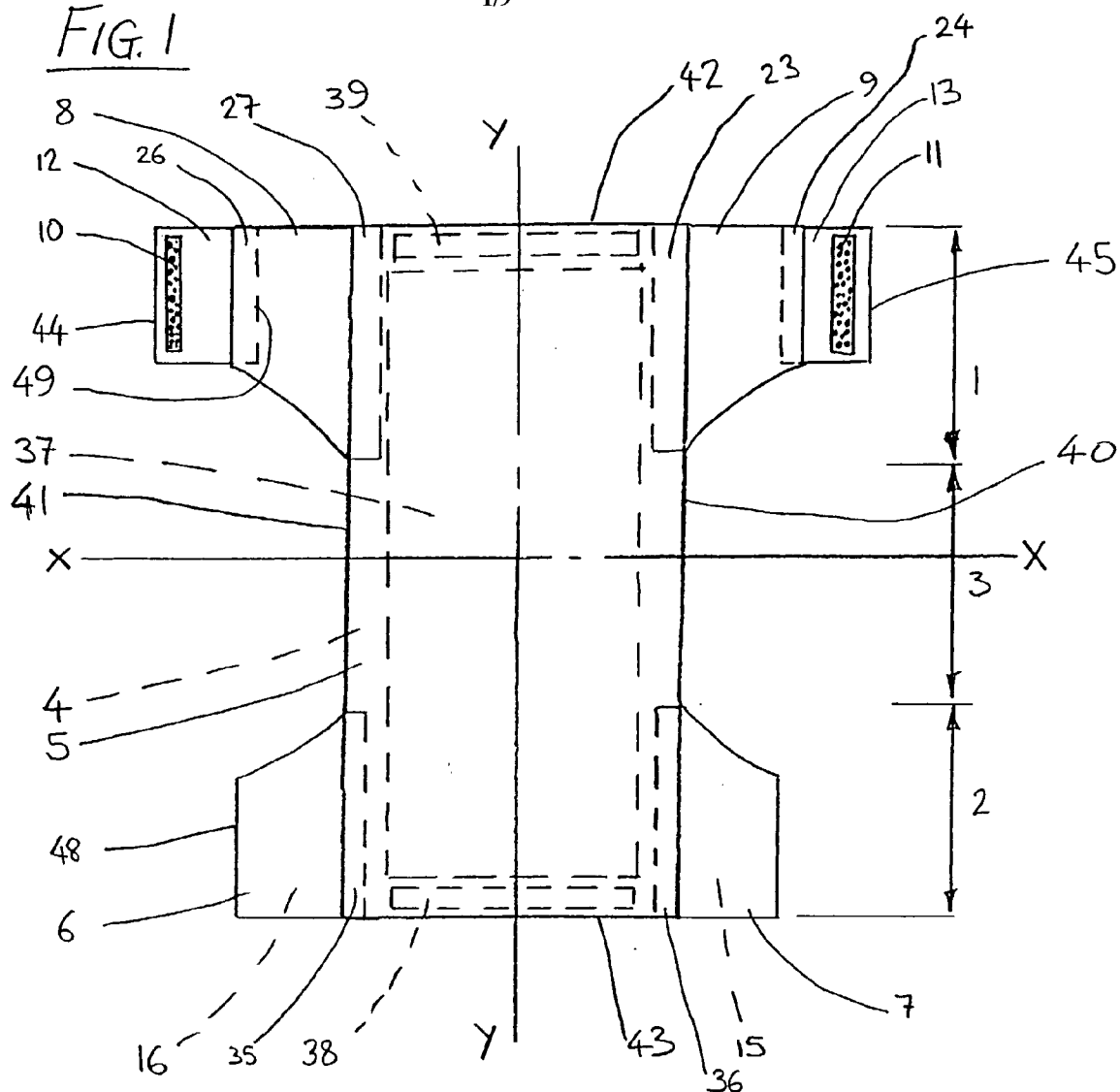


FIG. 2

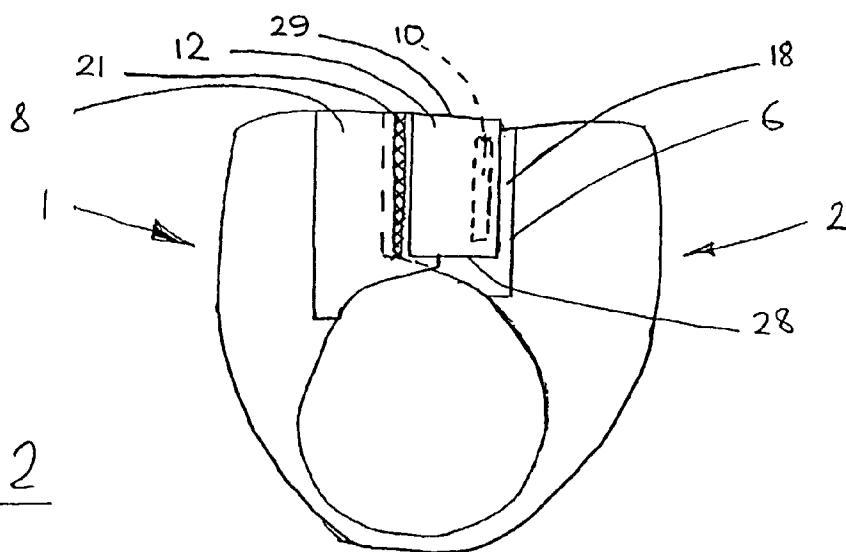


FIG. 3

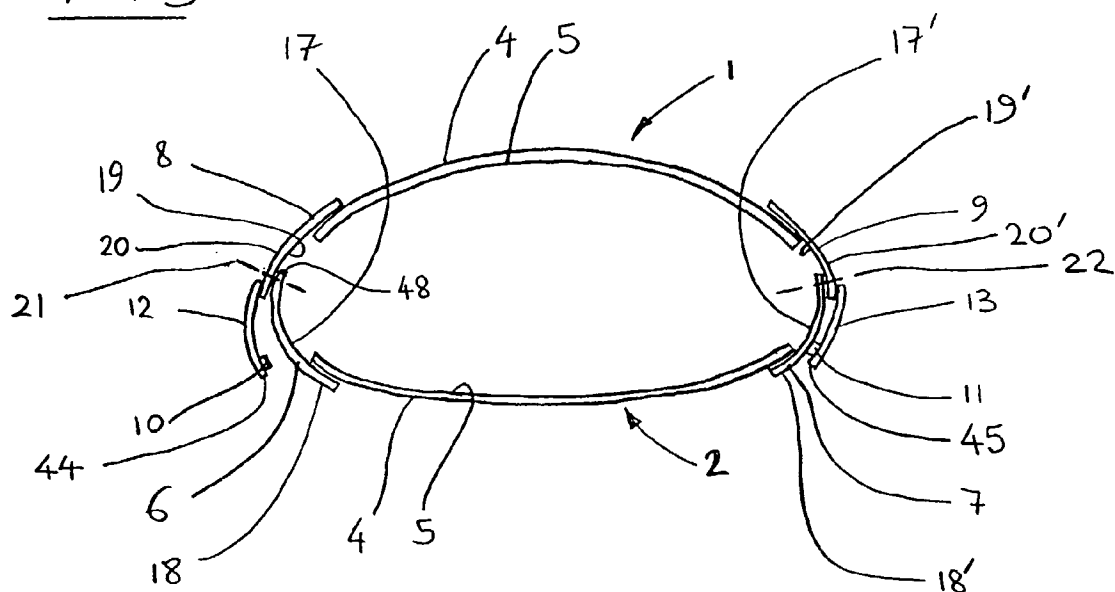


FIG. 4

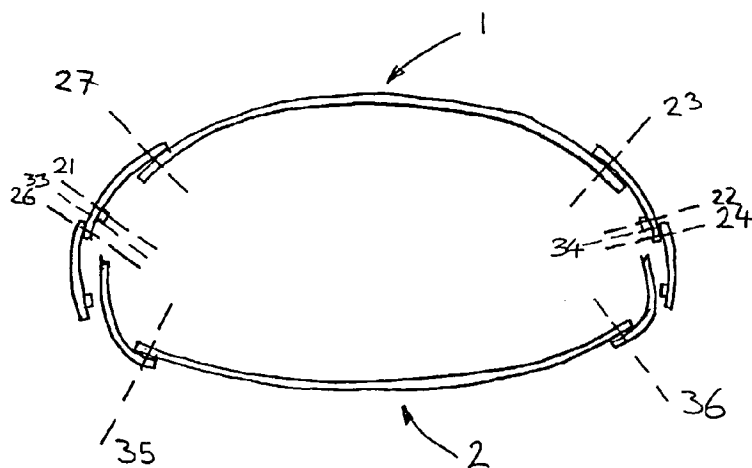


FIG. 5

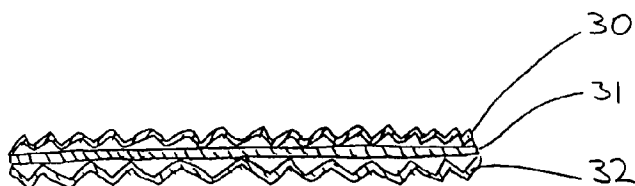


FIG. 6

(a)

(b)

(c)

(d)

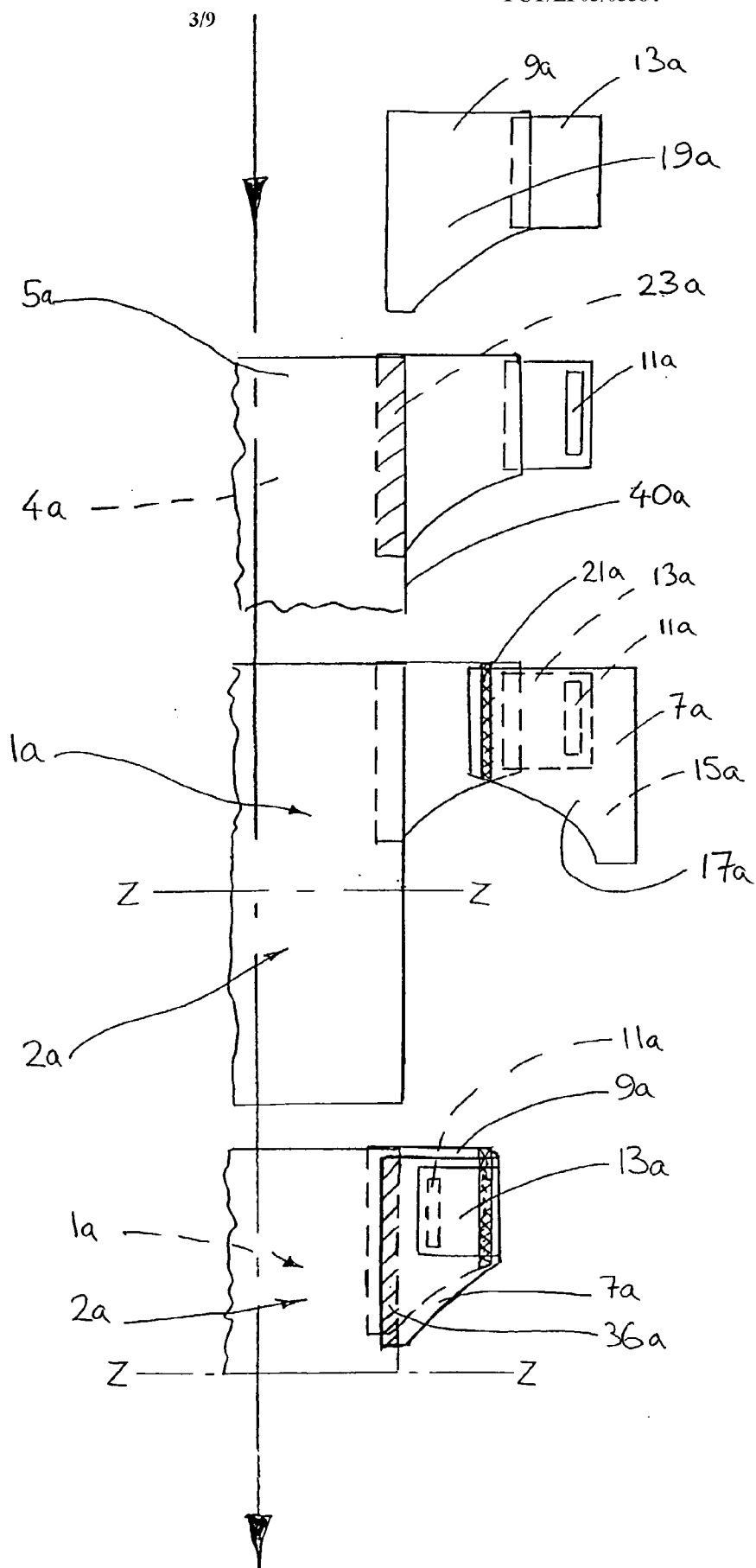


FIG. 7

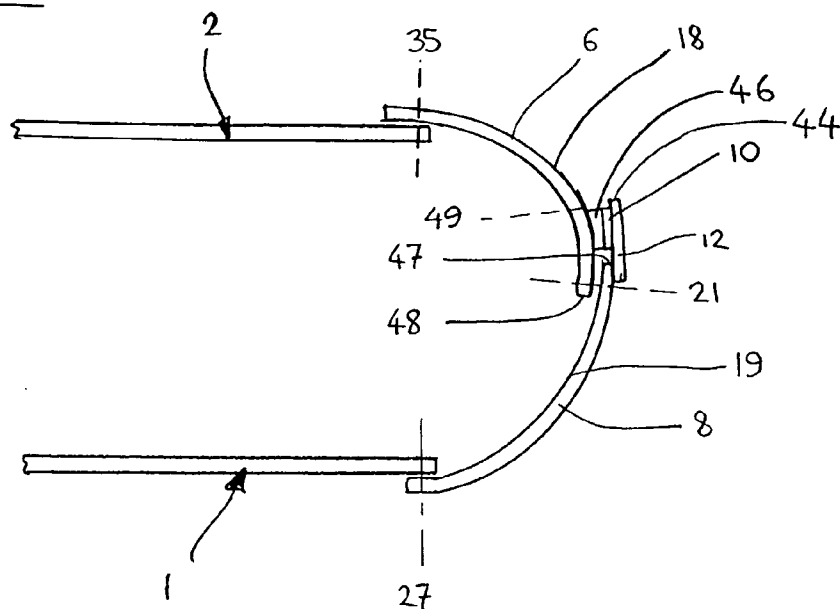


FIG. 8

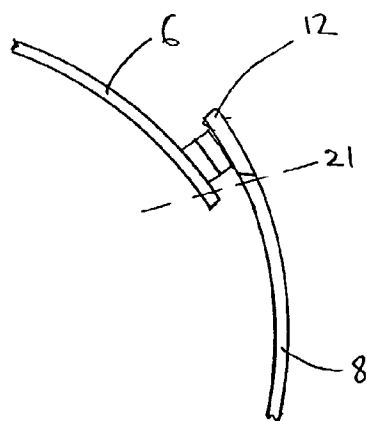


FIG. 9

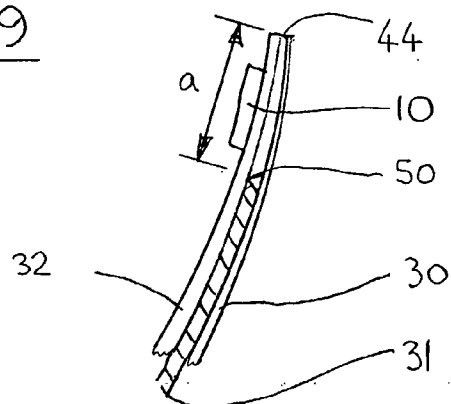


FIG. 10

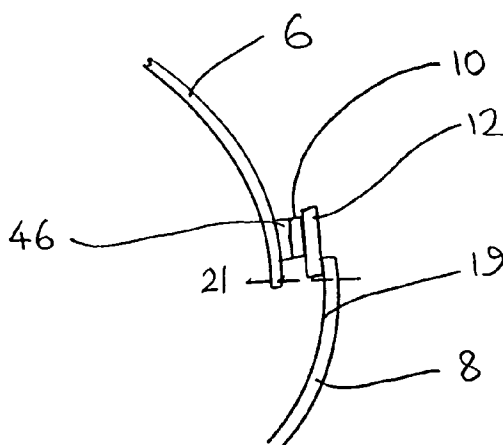


FIG. 11

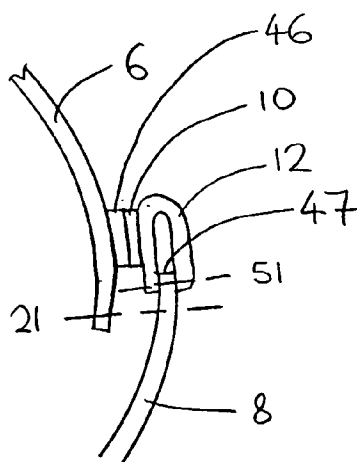


FIG. 12

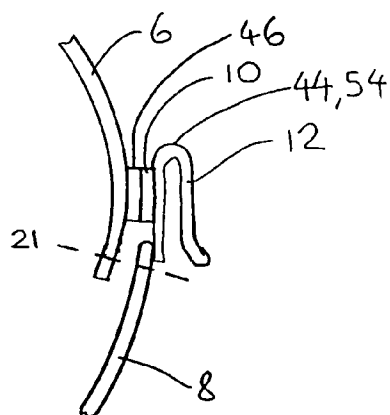


FIG. 13

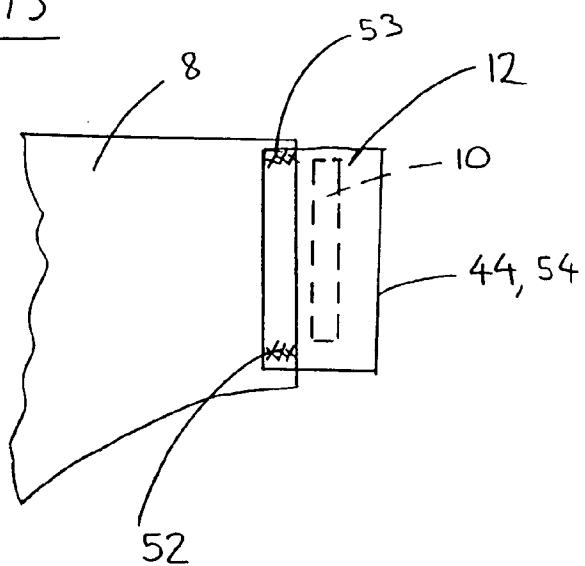


FIG. 14

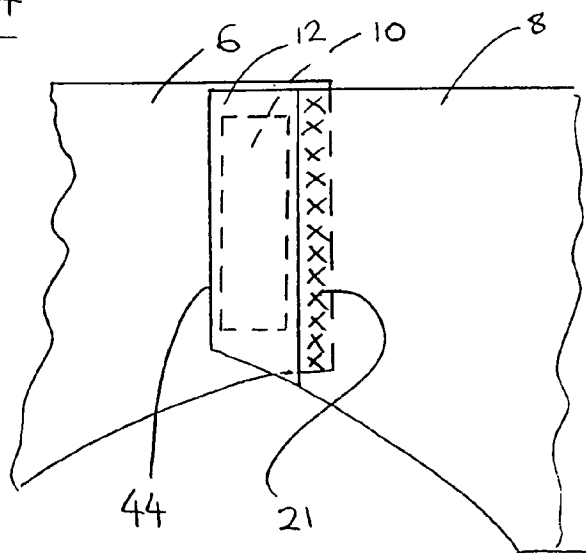


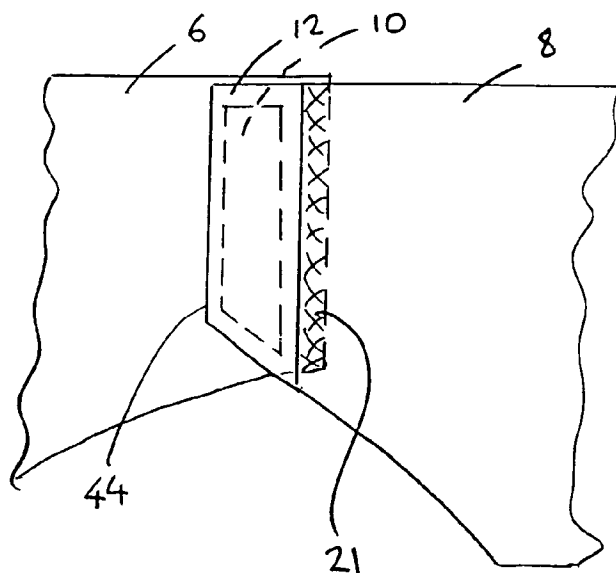
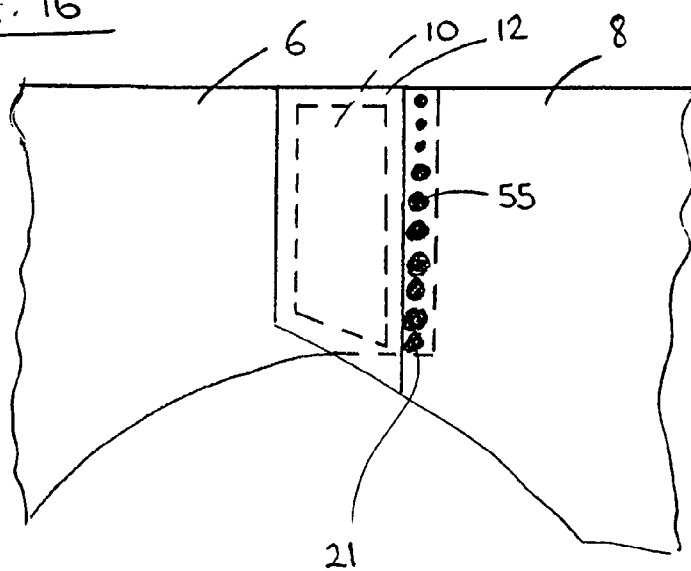
FIG. 15FIG. 16

FIG 17

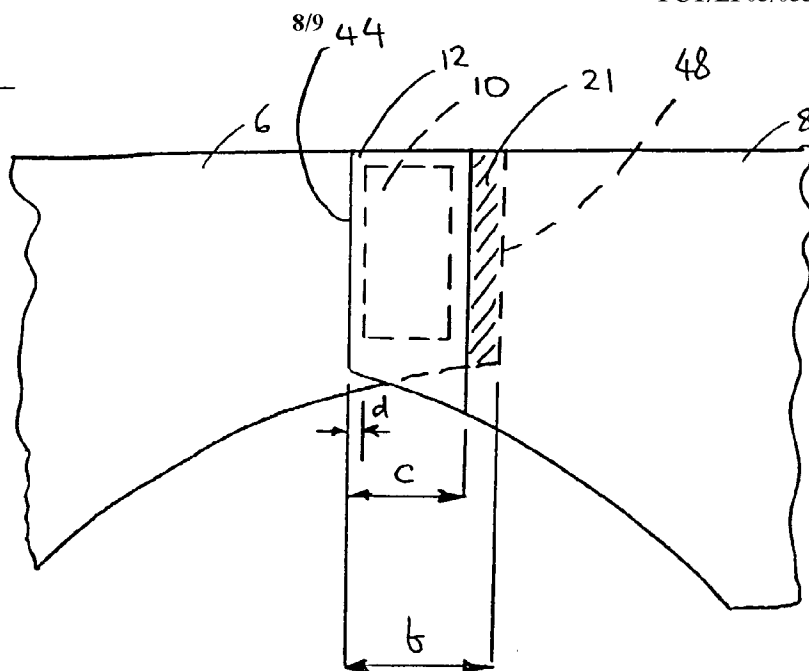
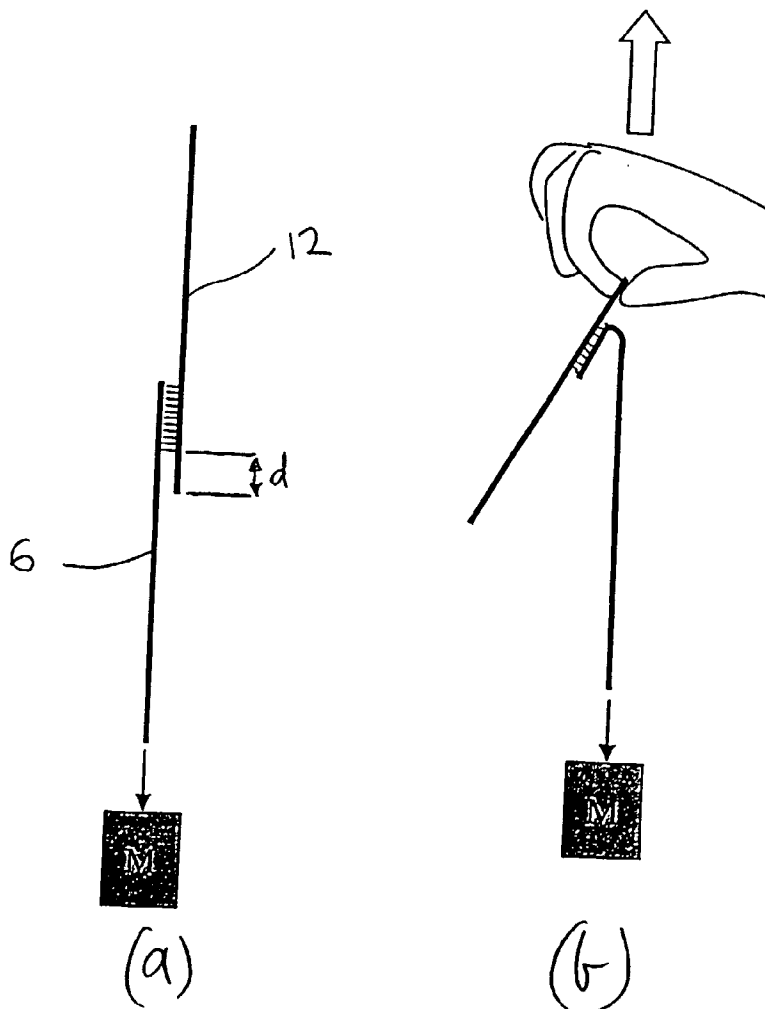
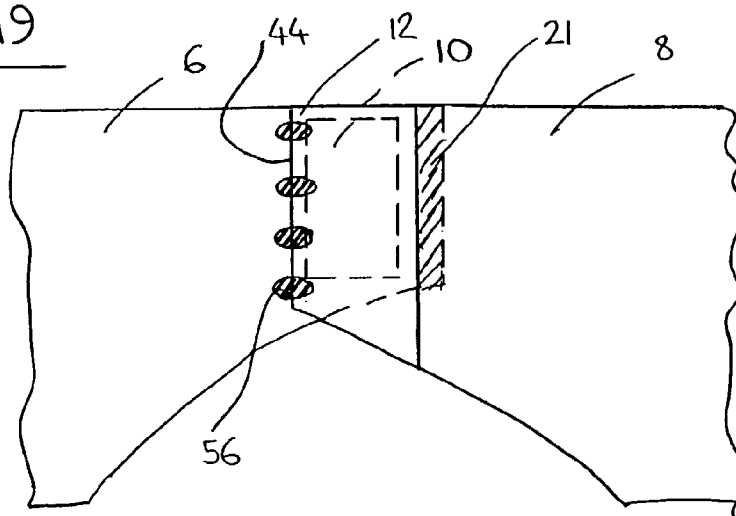


FIG 18



9/9

FIG. 19

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.

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	13/798,242
	Filing Date	March 13, 2013
	First Named Inventor	Beckert
	Art Unit	3761
	Examiner Name	Stephens, Jacqueline F.
Total Number of Pages in This Submission	Attorney Docket Number	HAR-788C2

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): - Form PTO – 1449 - Foreign References B1 - B25 - Non-Patent References C1 - C11
Remarks The Director is hereby authorized to charge any fee due upon submission of this mailing to Deposit Account No. 50-3081.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	Proskauer Rose LLP		
Signature	/Gerald E. Worth 45,238/		
Printed name	Gerald E. Worth		
Date	November 19, 2013	Reg. No.	45,238

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Beckert <i>et al.</i>	GROUP NO.:	3761
APPLICATION NO.:	13/798,242	EXAMINER:	Stephens, Jacqueline F.
FILING DATE:	March 13, 2013	CONF. NO.:	4782
TITLE:	Absorbent Incontinence Article with Improved Closure System		

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

INFORMATION DISCLOSURE STATEMENT

Madam:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. In accordance with § 37 C.F.R. 1.98, only copies of the foreign patent documents and non-patent publications are enclosed.

Submission of any document(s), publication(s) or reference(s) herewith does not imply concession by Applicant(s) to any characterization of the document(s), publication(s) or reference(s) (including any statements therein), and no such concession is made.

REMARKS

In accordance with the provisions of 37 C.F.R., this statement is being filed (check one)

- ☐ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or

- ☒ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**
- ☒ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or
- ☐ (3) after the mailing date of a final action or notice of allowance but on or before the payment of the issue fee, **AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein.

STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that:

- ☐ 1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or
- ☐ 2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Beckert <i>et al.</i>	GROUP NO.:	3761
APPLICATION NO.:	13/798,242	EXAMINER:	Stephens, Jacqueline F.
FILING DATE:	March 13, 2013	CONF. NO.:	4782
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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUBMITTAL OF CERTIFIED TRANSLATION OF PRIORITY DOCUMENT

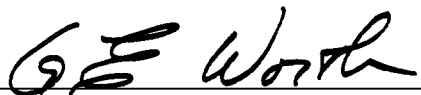
Madam:

The Patent Owner respectfully submits the certified translation of European Application No. 06022450 (the "Priority Document") to which the parent application U.S. Serial No. 12/446,586 (now U.S. Patent No. 8,152,788) claims benefit and priority. The Patent Owner respectfully submits that this Priority Document supports claims 1-21 of U.S. Patent No. 8,152,788 and the claims of the present application.

If any fees are due in connection with this submission, the Commissioner is hereby authorized to charge them to Deposit Account 50-3081.

Respectfully submitted,

PROSKAUER ROSE LLP



Gerald E. Worth, P.E.
Proskauer Rose LLP
Attorney for the Applicant
One International Place
Boston, MA 02110

Date: October 18, 2013
Reg. No.: 45,238

Tel. No.: (617) 526-9626
Fax No.: (617) 526-9899

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TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	13/798,242	
	Filing Date	March 13, 2013	
	First Named Inventor	Beckert	
	Art Unit	3761	
	Examiner Name	Stephens, Jacqueline F.	
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ENCLOSURES (Check all that apply)		
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<div style="border: 1px solid black; padding: 2px;">Remarks</div> <p>The Director is hereby authorized to charge any fee due upon submission of this filing to Deposit Account No. 50-3081.</p>		
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First Named Inventor/Applicant Name:	Susanne Beckert
Customer Number:	42532
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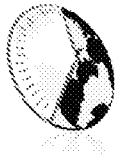
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Interim Copy of the Foreign Priority Document	HAR788_Certified_Translation.pdf	6173148 261c0165e2729caf0abecedb785770577d05fb41	no	81

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2	Miscellaneous Incoming Letter	HAR788C2_Certified_Translation_of_Priority_Document.pdf	24653 b6c29ee64f808619493e50bbf6d4fc7241052e69	no	1
Warnings:					
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3	Transmittal Letter	HAR788C2_Transmittal.pdf	263758 bab09ea0d2775d1b5a26aa18110581506e886c35	no	2
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County of New York
State of New York

Date: October 17, 2013

To whom it may concern:

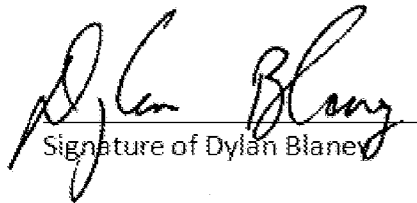
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Absorbent Incontinence Article with Improved Closure System**Description**

The present invention relates to an absorbent incontinence diaper with a rear area, a front area, and a crotch area lying between these, and with first and second side edges, and with a main part having an inner face directed toward the body and an outer face directed away from the body during use of the diaper, the main part comprising an absorbent body and a backsheet on the side of the absorbent body directed away from the body, the absorbent body having a smaller width than the backsheet, and with discrete side parts joined to the first and second side edges. The incontinence article is intended for adults and is embodied as a disposable diaper, that is, it is intended to be used only once.

Such incontinence diapers are known, for example, from W02004/105668A1.

In such incontinence diapers, the abovementioned side parts can be made from a different material from that of the main part. For example, the side parts, which are also frequently referred to as the "ears" of the incontinence diaper, may be breathable, in particular, permeable to air and water vapor, whereas the main part, which is frequently termed the chassis, can be embodied so as to be impermeable to liquids, in particular, impermeable to moisture. To close the incontinence diaper, side parts that are preferably non-detachably joined to the rear area are wrapped onto the abdomen side of the user where they are detachably connected either to the outer face of the front area of the main part or to the outer face of the side parts of the

front area.

If such an incontinence diaper is provided with mechanical closure aids, the problem results that, for the closure aids, which are usually embodied as hook-and-loop fasteners and are usually disposed on the rear side parts, a corresponding engagement surface must be provided on the outer face of the front area of the diaper that must be able to engage with the hooks of a hook-and-loop fastener.

However, the outer face of the main part of such incontinence diapers is usually constituted by a film material to prevent the egress of liquid through the absorbent body to the outside. The side parts of such incontinence diapers are preferably made of smooth nonwoven materials to improve the diaper's gentleness to the skin in places where a secure barrier to liquid is not required. An engagement surface for secure attachment of the hooks of a hook-and-loop fastener on the outer face of the front area of the diaper would first require the attachment of an additional material, in particular, a known textile loop component. Such a loop component, however, would have to extend along a large part of the front area of the outer face of the diaper in order to guarantee the large degree of flexibility required for fitting incontinence diapers (diapers for adults). Because textile loop components are a considerable cost factor, such a solution is unacceptable for economic reasons alone.

Moreover, in the case of incontinence diapers of a known type, considerable differences in the subjectively perceived comfort of the diaper have been demonstrated despite side parts that are gentle to the skin and permeable to air and water vapor.

To solve these problems, it is suggested that the closure means having mechanical closure aids can, in order to correctly secure the diaper on the

body of a user, be secured detachably at least in regions both on the outer face of the main part and also directly on the outer face of the side parts in the front area, the retaining forces between the mechanical closure means and the outer face of the main part being lesser than the retaining forces between the mechanical closure means and the outer face of the side parts in the front area. The retaining forces are preferably determined as over-abdomen retaining forces.

The materials forming the outer face of the main part and the outer face of the side parts in the front area are selected according to the invention such that, in addition to their primary function, they can also serve as the engagement surface for the closure means having mechanical closure aids. Surprisingly, it has also been shown that, when the retaining forces between the closure means and the outer face of the main part are lesser than the retaining forces between the closure means and the outer face of the side parts in the front area of the diaper, the users of the diapers tend to close the diaper in such a way that the closure means are secured on the outer face of the side parts in the front area. This, in turn, increases the wearing comfort of the diaper because it avoids overlapping of the side parts with the backsheet, which enables the advantages of the permeability to air and water vapor of the side parts to take effect without obstruction. Moreover, the risk of damage to the backsheet of the main part and therefore the risk of liquid passing through the mechanical closure aids is reduced.

The essential characteristic is that the retaining forces between the outer face of the main part and the closure means having mechanical closure aids also help to hold the diaper on the body. For this purpose, it has proven advantageous if the over-abdomen retaining forces between the closure means and the outer face of the main part is 57-20 N/25 mm, particularly 50-25 N/25 mm.

Furthermore, the over-abdomen retaining forces between the closure means and the outer face of the side parts in the front area are preferably 90-58 N/mm, particularly 80-60 N/25mm.

To determine the over-abdomen retaining forces, the closure of forces exerted during lateral strain are measured. A test method for determining the closure forces during lateral strain is given below:

To perform the test method, a tensile test device of type Z010 I TN 25, strain gauge 100 N, obtainable from Zwick GmbH & Co KG, Ulm, Germany, can be used with a clamp jaw width of 60 mm for clamping the specimen. To perform the test method, the closure system to be tested with a loop component and a closure means having mechanical closure aids adhering thereto is placed on a curved surface, which is intended to simulate the curvature of the abdomen region of a user (see figure 8). To connect the closure components with the clamp jaws of the tensile test device, a flexible substrate, for example, an adhesive tape with adhesive properties on one side with a preferred width of 25 mm, or 50 mm, is used (obtainable from 3M Deutschland GmbH, Neuss, Germany, with the designation STA 306). The adhesive tape is made of polypropylene and its surface is coated with a urethane-modified silicone polymer. The mass per unit area of the adhesive coating is 23 g/m². The specimen placed upon the curved surface, consisting of laminar sections of the closure system adhering to one another, is subjected to tensile strain using the tensile test device, resulting in lateral strain on the laminar sections adhering to one another.

Preparing the sample:

The mechanical closure components to be used, that is, the material of the loop component 106 constituting the outer face of the front side parts of the main part and a closure means 108 of the closure system having mechanical closure aids, are conditioned at 23° C and 50% relative air humidity for 24 h.

As is described in more detail below, the loop component may, for example, be a nonwoven material or nonwoven film laminate. Specimens of size 50 x 300 mm are punched out of the loop component and fixed centrally sandwiched between two 50-mm wide one-sided adhesive tapes 101 with their adhesive surfaces facing each other in such a way that the lower adhesive tape covers the entire area of the rear side of the section and the upper adhesive tape overlaps the upper side (in the case of a nonwoven film laminate, the upper side is the nonwoven side) of the loop component over a length of 50 mm in such a way that the loop component protrudes 50 x 250 mm beyond the tape (see figure 9a, figure 9b). Similarly, the closure means 108 having mechanical closure aids is punched out over its entire length, that is, the same length as is to be used for the incontinence diaper, in the example 20 mm, and over a width of 25 mm, and is fixed using two 25-mm wide one-sided adhesive tapes 141 bonded to each other with their adhesive surface facing each other in such a way that the upper adhesive tape covers the entire area of the rear side of the laminar section and the lower adhesive tape abuts the laminar section (see figure 9a and figure 9b). The laminar section of the closure means 108 having mechanical closure aids is now placed on the loop component 106, the distance from the longitudinal end edge of the loop component being 10 mm and that from each side longitudinal edge being 12.5 mm (see figure 9a). If the loop component 106 is available with a smaller dimension from the outset, so that it is not possible to provide a specimen measuring 50 mm x 300 mm, the size of the specimen with a width of 25 mm and a certain length are selected and this section is fixed centrally sandwiched between the ends of two 25-mm wide one-sided adhesive tapes 101, as are described in more detail above, in such a way that the lower adhesive tape covers the entire area of the rear side of the laminar section and the upper adhesive tape overlaps the loop component over such a length that the length of the loop component protruding beyond the tape is

equal to the length of the section of the closure means 108 having mechanical closure aids (see figure 9c, figure 9d). In such a case, the sections of the closure means 108 having mechanical closure aids and the loop component 106 prepared in this way are placed upon one another over their full area (figure 9c, figure 9d).

If no 25-mm wide section of the closure means 108 having mechanical closure aids is available, a correspondingly narrower section is used. In such cases, the forces determined are scaled with respect to a 25-mm wide section in such a way that the measured forces are multiplied by a factor f resulting from $f = \frac{25}{x}$, where x is the width of the specimen measured in mm.

The laminar sections placed one upon the other in this way or in the way previously described are connected to each other by fourfold rolling with a 50-mm wide and 100-mm diameter roller with a smooth surface and roll weight of 5 kg, the rolling velocity being 20-100 mm/sec.

Test method:

The loop component 106 extended as described above is clamped centered in the lower clamp jaws 122 of the tensile test device, and the opposite end of the closure means 108 having mechanical closure aids extended as described above is also clamped into the movable upper clamp jaws 123 of the tensile test device, also centered. The specimen clamped in this way is placed over the test setup 100 shown in figure 8 and figure 10 intended to simulate the abdomen or hip region of the user. This test setup 100 is shown in a perspective view in figure 10. A surface 102 curved in a bow made of polished steel with a surface roughness of 5 to 25 mm and a radius of curvature R of 400 mm at least in sections and a cord length SL of 300 mm are depicted. Moreover, above and below the curved surface 102, 18-mm diameter redirection rollers 104 are provided that redirect the specimen placed over

the curved surface by $H = 88$ mm in the vertical direction, where it is then held in clamps 120, 124 of the tensile test device (not shown). The redirection is performed through an angle α of 60° . The pull-off angle is thus essentially tangential to the curved surface and kept constant. The laminar sections 106, 108 placed one upon the other of the components of the closure means are positioned with respect to the curved surface 102 in such a way that the closure means having mechanical closure aids are centered in the center of the apex 5 of the curved surface 102. The movable clamp jaws 124 by which the closure means having mechanical closure aids are connected are then moved in the direction of the arrow P at the test velocity stated below while the tensile force between the clamps is measured. The test parameters are:

- Test velocity: 300/min
- Clamping length of the specimen: 430 mm (see figure 8)
- Measuring distance: distance to separation of the closure means
- Initial force: 0.2 N
- Number of test cycles: $n \geq 6$

The analysis is performed in such a way that the maximum force measured before the closure means come apart rounded to 2 decimal places in N (Newtons) is recorded and stated as a mean value over n measurements.

For the mechanical closure aids, in particular, the hooks of a hook-and-loop fastener in the form known in prior art could be used. Preferably, a section having the hooks of the hook-and-loop fastener is laminated on the closure strip material using an inherently known method. A closure strip is preferably anchored at one free end of the side part in question and itself has a free user end with the mechanical closure aids.

However, it is also conceivable and advantageous to provide multiple sections having the hooks of a hook-and-loop fastener at intervals on each of the

closure strips. In such a case, the closure strip exhibits less rigidity and can better adapt to the curvature of the body when the diaper is worn. The individual sections having the hooks of a hook-and-loop fastener preferably have a width, that is, an extent in the cross- direction of the diapers, of 1 to 10 mm, particularly 2 to 6 mm. The distance between the individual sections is particularly 0.1 to 3 mm, more particularly 0.7 to 2 mm.

It is also conceivable and advantageous for the closure strip material to be elastically stretchable at least in regions.

Moreover, it is conceivable and advantageous, in addition to the mechanical closure aids embodied as mechanical elements, preferably the hooks of hook-and-loop fasteners, to provide adhesive closure aids, such as pressure-sensitive adhesive regions on the closure strips, to ensure even more reliable adhesion for the purpose of primary closure or, secondarily, for the purpose of disposing of the used diaper. The pressure-sensitive adhesive regions can, in particular, be provided in an outer region of the closure strip, that is, a region directly bordering the free end of a respective closure strip.

It is further conceivable for the closure means having mechanical closure aids to be anchored directly on the inner face of the side parts. In such a case, the closure means would not be disposed on a closure strip extending beyond the free end of the side part but inside the side edge of the side parts.

In a preferred embodiment, the absorbent incontinent diaper has four discrete, not directly interconnected side parts such that one side part is attached to each of the two side edges of the front area and a further side part to each of the two side edges of the rear area. In such a case, the crotch area of the diaper lying between the front and rear side parts has no side parts, which improves air circulation of the diaper when it is applied. The crotch area of the diaper is also formed without incurring production waste

(no leg cutout).

In an alternative embodiment, the incontinence diaper has only two discrete, not directly interconnected side parts such that a first side part is attached to the first side edge and a second side part is attached to the second side edge. In such a case, it is advantageous if the first and second side part each extend continuously from the front area over the crotch area to the rear area. In particular, it proves advantageous with respect to economical production and the provision of an attractive appearance of the diaper if the side parts end flush with the transverse ends of the main part.

At least in the front area, preferably also in the rear area, the side parts preferably have a nonwoven component, in particular, the side parts are constituted without any use of film, more particularly the side parts consist of a one- or multi-layer nonwoven component.

The outer face of the main part of the incontinence diaper is constituted by a nonwoven material, preferably at least in regions but particularly over its entire surface. Nonwovens are considerably less expensive than textile loop components and are also particularly gentle to the skin. They also lend the incontinence diaper a textile-like appearance. In such a case, it is advantageous for the backsheet of the main part to be made of a nonwoven film laminate, the nonwoven layer being outside and the film layer being inside facing the absorbent body so that the nonwoven layer constitutes the outer face of the main part. This both ensures that the main part is impermeable to liquid and that the diaper is gentle to the skin.

The film layer of this nonwoven film laminate is preferably made of a one- or multi-layer film that is impermeable to liquid, but preferably also breathable. This offers the advantage that the incontinence diaper is also breathable in the region of the main part.

All thermoplastic polymers can, in principle, be used as the materials for the film. A large number of commercial products are available on the market. Preferably, LDPE (low-density polyethylene), LLDPE (linear low-density polyethylene), MDPE (medium-density polyethylene), HDPE (high-density polyethylene), and various PP (polypropylenes), and copolymers of ethylene or propylene are used in combination with each other or with other comonomers. These polymers are used either in pure form or as polymer mixtures. Common ingredients for hygiene films include mixtures of 10 to 90% by weight of LDPE, 10 to 90% by weight of LLDPE, and 0 to 50% of MDPE, for example, a mixture of 80% LDPE, 20% LLDPE and pigmentations suitable for the requirements.

Commercially available polymers for hygiene films have the following melting point ranges or crystalline melting points:

LDPE = 112 to 114° C

LLDPE = 119 to 125° C

MDPE = 125 to 128° C

PP (block copolymers) = 130 to 163° C

Furthermore, ethylene vinyl acetate (EVA), ethylene acrylate (EA), ethylene ethyl acrylate (EEA), ethylene acrylic acid (EAA), ethylene methyl acrylate (EMA), ethylene butyl acrylate (EBA), polyester (PET), polyamid (PA), e.g. Nylon, ethylene vinyl alcohols (EVOH), polystyrene (PS), polyurethane (PU) and thermoplastic olefin elastomers are suitable as thermoplastic polymer materials for this film.

As the material of the film, polyolefins, such as LDPE, LLDPE, and PP, are preferred. Mixtures of these polymers, for example, mixtures of LDPE and LLDPE, mixtures of LDPE or LLDPE and PP or mixtures of PE and PP with different melting points are especially preferred.

The film is manufactured using an inherently known method, for example, by blow extrusion or cast methods. In these methods, the expansions that the film undergoes during extrusion are at least partially responsible for the film's shrinkage during subsequent tempering (described in more detail below). Additional stretching is not necessary but, if desired, can be performed in an inherently known manner. In the case of breathable laminates, the provision of the breathability is preferably achieved by including a fine filling material in the mixture and stretching the film or the composite material. Stretching causes microcracks in the film that ensure the necessary permeability to water vapor and gas without impairing the water tightness to any considerable degree.

Numerous types of nonwovens can be used for the nonwoven components of the outer face of the main part and for the nonwoven component of the side parts in the front area, and preferably also in the rear area. In particular, all nonwovens are suitable that contain at least one initial component based on a thermoplastic polymer. The nonwovens can be fibers made of PE, PP, PET, Rayon, cellulose, PA, and mixtures of these fibers. Also bi- or multi-component fibers are conceivable and advantageous. In particular, carded nonwovens, spunbond nonwovens, water-jet needle-punched nonwovens, SM nonwovens, SMS nonwovens, SMMS nonwovens or also laminates of one or more of these types of nonwovens are advantageous, where each S stands for a spunbond layer and each M for a meltblown nonwoven layer. Spunbond nonwovens are especially preferred because they possess high strength in the longitudinal and transverse direction and therefore withstand the lateral forces exerted on them due to the engagement of the mechanical closure aids especially well. To prevent fibers from being torn out of the nonwoven composite material when the mechanical closure aids are pulled apart, it is advantageous to provide the nonwoven component with an embossing pattern by means of which all fibers of the nonwoven component are

preferably bound. In particular, a thermal embossing pattern is advantageously produced using calenders of the nonwoven material with the input of thermal energy.

The embossing pattern can include numerous spot-like joining points or joining regions in an inherently known fashion and the joining points can have any conceivable geometric form. In particular, the joining points can be circular, oval, square, rectangular, rhombic, or star-shaped.

In an especially advantageous embodiment, the joining regions of the embossing pattern are disposed in such a way that the joining regions surround unconnected loop regions disposed in an island-like fashion. The joining regions can surround the loop regions continuously, that is, without gaps. However, it is also conceivable and advantageous for the joining regions to be formed, in particular, by smaller sections in the form of a line, that is, to provide the joining regions with gaps.

The geometrical shape of the unconnected loop regions disposed in an island-like fashion is in itself non-critical. The loop regions can be circular, oval, rectangular, square, triangular, hexagonal, octagonal, or have other polygonal shapes.

In particular, the joining regions can be constituted by numerous lines that intersect to form a regular rhombic pattern so that unconnected, rhombic loop regions disposed in an island-like fashion are surrounded by line-like joining regions. The closure means having mechanical closure aids can securely engage with these loop regions without a risk of fibers coming loose from the nonwoven component. Such an embossing pattern is disclosed, for example, in EP0882828A1.

A further preferred embossing pattern with loop regions disposed in an island-like fashion is disclosed in DE102004053469A1, to which express

reference is hereby made. This embossing pattern corresponds to the one previously mentioned joining regions provided with gaps.

The proportion of the area covered by the joining points or joining regions is preferably 7-40%, particularly 15-30%, more particularly 17-25%.

The mass per unit area of the nonwoven component for the outer face of the main part is preferably 10-30 g/m², particularly 14-25 g/m², more particularly 18-22 g/m².

The mass per unit area of the nonwoven component for the side parts is preferably 18-60 g/m², particularly 25-45 g/m², more particularly 27-40 g/m² and even more particularly 28-35 g/m².

The mass per unit area of the nonwoven component for the side parts in the front area and preferably also in the rear area is preferably greater than the mass per unit area of the nonwoven component for the outer face of the main part. Due to the higher mass per unit area of the nonwoven component for the side parts, a higher closure retaining force is possible because the mechanical closure aids can engage with more fiber material. The higher mass per unit area of the nonwoven component of the side parts also encourages the user to fix the closure means having mechanical closure aids preferably to the side parts and not to the outer face of the main part because the user associates greater reliability of closure with a higher mass per unit area and therefore preferably with a greater thickness of the nonwoven component. The nonwoven component of side parts therefore has a greater thickness than the nonwoven component of the outer part of the main part, the thickness being determined under a test pressure of 0.5 kPa.

In an especially preferred embodiment, the nonwoven components of the outer face of the main part of the side parts have the same embossing pattern. This is beneficial to the appearance of the hygiene article and the

subjective perception of comfort by the user.

The nonwoven component of the outer face of the side parts in the front area, and preferably also in the rear area, is preferably constituted by a material that is permeable to water-based liquids. This improves the dissipation of perspiration from the inside to the outside.

In an especially preferred embodiment, the side parts in the front part and preferably also in the rear part consist essentially of a nonwoven component so that the outer face and also the inner face of the side parts largely comprise nonwoven components.

The outer face of a nonwoven film laminate constituting the backsheet of an inventive incontinence diaper is intended to ensure an over-abdomen retaining force with the closure means having the mechanical closure aids that ensures secure attachment of the diaper to the body. For this purpose, it is advantageous, in addition to selecting suitable nonwoven and film components, to use a suitable lamination method to produce the composite material made of a nonwoven and film.

The lamination of the nonwoven component of the backsheet with the film component of the backsheet can be performed in an inherently known manner using any joining methods, in particular, by gluing, embossing, ultrasonic welding, or thermocalendering. A preferred thermolamination method is disclosed in DE102004042405A1 and is hereby incorporated by reference.

It is also possible to produce the laminate by direct extrusion of the film onto the nonwoven. Such composite materials are preferably subjected to a stretching step in at least one direction to increase the shrinkage that can be achieved in heat treatment (described in more detail below). Laminates in which the film was connected to the nonwoven layer by direct extrusion are

therefore embossed, stretched, in particular, by the known ring-rolling method, or preferably embossed and stretched.

Because many of the lamination methods for producing the nonwoven film laminates impair the plushness of the nonwoven component and therefore clearly reduce the over-abdomen retaining forces, it has proven advantageous to temperature-treat the nonwoven film laminate after lamination. This temperature treatment results in the film shrinking, particularly by 1 to 10%, more particularly by 2-5%, particularly in the direction in which it was previously stretched during production or lamination thereof, that is, in the transverse and/or longitudinal direction. The shrinkage of the film forces the nonwoven component connected to gather, resulting in an increase in mass per unit area, so that the nonwoven component can subsequently better engage with the closure means having mechanical closure aids and exhibits higher over- abdomen retaining forces than before temperature treatment. Preferably temperature treatment is performed by heating above the melting temperature of the films. In such cases, the film preferably has at least one component that has a lower melting point than at least one fiber component of the nonwoven component so that the fiber structure is not destroyed by the heating.

When referring to polymer materials in this present application, the melting point is the temperature at which the shear modulus of the material tends to zero. In the case of polymers with crystalline components or crystalline polymers, the crystalline regions will (also) have melted at this temperature.

When referring to a film, the melting point is the temperature at which the film melts as a whole. If the film comprises more than one material, this does not require that every component in itself have a melting point at or below the melting point of the film, but rather the melting point of the film regularly corresponds to the temperature at which the main thermoplastic component

melts. For example, a breathable film containing 60% calcium carbonate, 32% of a polymer with a crystalline melting point of 138° C and 8% of a polymer with a crystalline melting point of 158° C has a melting point of approximately 138° C.

In the case of breathable films, the breathability, for example, is mainly achieved by the addition of a fine filling material such as calcium carbonate, whose very high melting temperature essentially does not influence the melting point of the film even with additives of over 50% by weight. For example, a film made of a mixture of 60% calcium carbonate with 40% polymer has the same crystalline melting point as the polymer.

In the case of nonwovens comprising multiple material components, not all material components require a melting point above the temperature of the heat treatment, it is enough if at least one component has a higher melting point so that the integrity of the nonwoven is retained. It can even be advantageous if one material component of the nonwoven has a lower melting temperature, because this can improve the composite adhesion of the laminate.

The preferred heat treatment of the nonwoven film laminate can be performed either directly after production (in-line) or later and independently thereof (off-line). The treatment is performed using an inherently known method, but the temperature must be set at least above the melting point of the main thermoplastic components of the film in the nonwoven film laminate.

The process window of the heating is bounded at the lower end by the minimum temperature at which the film is in the molten liquid state that is essential for heat treatment. The maximum temperature of the heating is determined by the crystalline melting point of the nonwoven web and, in the

case of breathable films, possibly also by a loss of breathability of the film that may occur at excessive temperatures. If heating reaches the crystalline melting point of the nonwoven web, the good softness of the laminate is lost and there is a risk of pin-holes forming in the composite material. In the case of breathable films, the heat treatment should be performed at temperatures at which the molten material is still too viscous to close the pores.

Alternatively, the breathability can be produced after heat treatment, for example, by subjecting the composite material to ring-rolling after this step.

The heat treatment is preferably performed by heating the nonwoven film laminate by means of one or more hot rollers or alternatively, for example, by means of infrared radiation until the film, that is, at least the raw material component of the film with the lowest melting point, has reached the molten liquid state. After heating, the composite material passes directly to slow-running cooling rollers so that shock-cooling occurs and shrinkage between the heating element and cooling is possible due to the 1 to 10% lower circumferential velocity of the cooling rollers. The shrinkage should be in the range 1 to 10% (length/length) in the machine direction, shrinkage also occurs transversely to this, depending on the production and pretreatment of the film. In the case of bubble film, the transverse shrinkage is typically also 1 to 10%; for cast films, it is typically lower. The temperature of the cooling rollers is preferably 10 to 30° C, so that the cooling of the composite material very quickly reaches a temperature below the melting point of the film, e.g., within a fraction of a second.

It has also proven advantageous if the breathability of the side parts in the front area, and preferably also in the rear area, is greater than the breathability of the backsheet.

In an advantageous development of the invention, the side parts in the front

and/or rear area are folded open themselves about at least one folding line extending in the longitudinal direction. In particular, partial sections of the side parts folded on one another and lying against one another over an area in this folded configuration are detachably fixed to each other at joining points or in joining regions. This detachable fixture is preferably constituted by thermally or ultrasonically formed, preferably spot-shaped joining points. This offers the advantage that the side parts can be reliably guided in fast-running production machines, and it also offers advantages during removal from repackaging and preparation to apply the incontinence diapers. This makes the incontinence diaper easy to use and proves especially advantageous, in particular, for application by very infirm users.

In a development of this inventive principle, it proves advantageous if, in a partial section constituting the free end of the side part and folded in the transverse direction in this way, a grasping region is provided for unfolding the material section. In the simplest case, this grasping region can be constituted by a longitudinal side edge section of the stated part section which the user can grip using the fingers. It would also be conceivable for a separate manually grippable grasping element to be provided on the partial section in question, which would, however, incur an additional manufacturing cost.

It proves especially advantageous if the detachable fixture to all joining points or joining regions can be detached by a single pull on the grasping region of each side part. This simplifies handling and makes the incontinence diaper easier to use. In connection with the significance and testing of the feature of unfolding by single pulling, express reference is expressly made to DE102004021353A1 and the test method disclosed therein.

In a further embodiment of this inventive principle, the side parts in the front area, and preferably also in the rear area, are folded upon themselves about

at least two folding lines so that in cross-section a z-shaped configuration is formed. In a further preferred embodiment, the side parts are folded upon themselves about three folding lines.

In a further preferred embodiment of the inventive incontinence diaper, the grasping regions are facing outward before the side parts are unfolded in the front area, and preferably also in the rear area, in the transverse direction, that is, facing away from each other and from the longitudinal center axis of the main part of the diaper when it is spread out on a flat undersurface, so that they can comfortably be gripped with the left hand of a user from the left and with the right hand of the user from the right.

The extent of a side part joined to the main part beyond the side edge in the transverse direction in the unfolded state is preferably at least 10 cm, in particular, at least 15 cm, and more particularly at least 18 cm. It is preferably no more than 35 cm, in particular, no more than 30 cm and more particularly no more than 27 cm. The side parts joined to the main part have an extent in the longitudinal direction of the incontinence diaper in the area of joining to the main part of preferably at least 10 cm, in particular, at least 14 cm, in particular, at least 18 cm and more particularly at least 22 cm.

In a further embodiment of the invention, the side parts have (at least in the rear area) a reinforcing means that, viewed in the transverse direction, is narrower than each side part and that is provided at least in an area that bridges the side edge of the main part, that is, it extends both over a side edge area of the main part and over part of the side part in the transverse direction. This considerably increases the tear resistance of the side parts.

It proves especially advantageous if the reinforcing means extends substantially at least almost to a transverse edge of the side part facing the crotch area, that is, if it is flush with the transverse edge of the side part or

even includes and surrounds the transverse edge.

The reinforcing means can extend in the longitudinal direction of the hygiene article, for example, over the entire longitudinal extent of the attached side part. It has been shown that this is not absolutely necessary but that it also proves advantageous if the reinforcing means has a smaller dimension in the longitudinal direction of the hygiene article than the attached side part itself. Because of the forces exerted during use on the side part and on the joining area of the side part and main part of the diaper, it is sufficient if the reinforcing means extends, for example, only up to 80% or, particularly, up to 60% and, more particularly, up to 50% of the longitudinal extent of the side part. This saves material compared with continuous reinforcement in the longitudinal direction.

The reinforcing means always extends beyond the side edge of the main part in the transverse direction toward the free end of the side part. This extending of the area of the reinforcing means beyond the side edge of the main part toward the free end of the side part, measured from the side edge of the main part, is preferably no more than 50%, particularly no more than 35%, more particularly no more than 25%, more particularly no more than 20%, more particularly no more than 15%, more particularly no more than 10% of the transverse extent of the side part.

The reinforcing means also preferably extends in the transverse direction toward the longitudinal centerline of the main part so that it at least partially covers the region in which the side part and the materials of the main part overlap. The reinforcing means preferably extends over the entire overlapping region.

It proves to be very especially advantageous if an attached side part can be constituted in the shape of a rectangle without the problem of tearing arising.

In a first embodiment of the invention, the reinforcing means provided according to the invention can be advantageously constituted by an attached reinforcing section, that is, by additional material added to the side part, particularly applied on top of each side part. This reinforcing section can have any shape. This reinforcing section can, for example, also be embodied in the shape of a triangle.

This can be a section of a strip-shaped or ribbon-shaped material. In particular and advantageously, the reinforcing section can be constituted by a nonwoven material, textile material, or film. Like the side parts, it can also be fed and attached in a continuous production process using the cut-and-place method.

If the reinforcing section is constituted by a nonwoven material and the reinforcing section is disposed on the outer face of the side parts, the outer face of the nonwoven material can preferably be engaged with the closure means having mechanical closure aids, for example, for the purpose of disposing of the used diaper.

The reinforcing section preferably has the same embossing pattern as the nonwoven material component of the side part and/or the outer face of the main part.

Multiple reinforcing sections can also be provided. The reinforcing means can be attached to one or both upper sides of the side part.

According to an especially advantageous embodiment of the invention, the reinforcing means is constituted by the material of each side part itself by folding the side part once or multiply in the area overlapping the side area of the main part. In a top view of the hygiene article having just been unfolded, according to this embodiment, an area of each side part covering or overlapping the side edge of the main part is formed by double or multiple

layers of material resulting from folding the side part. This provides especially effective protection against tearing. Folding of each side part in the shape of a Z, viewed in the longitudinal direction of the hygiene article, proves especially advantageous.

Additional features, details, and advantages of the invention follow from the enclosed claims and from the drawings and the following description.

Preferred embodiments of the inventive diaper are shown in the drawing.

- | | |
|-----------------|--|
| Figure 1 | shows a top view of the outer face of an inventive incontinence diaper |
| Figure 2 | shows a cross-sectional view along a line A-A of the incontinence diaper shown in figure 1 |
| Figure 3 | shows an embossing pattern for a nonwoven material component |
| Figure 4 | shows a further embossing pattern for a nonwoven material component |
| Figure 5 | shows a schematic representation of the joining of the side part to a main part with reinforcing means |
| Figures 6 and 7 | show representations of hooks of a hook-and-loop fastener of a mechanical closing aid |
| Figure 8 | shows schematic representation of the structure of a tensile test using a device with a curved surface |
| Figures 9a-9d | show schematic representations of the test object |
| Figure 10 | shows perspective view of the device shown in figure 8 |

Figures 11a, 11b show a top view of the user end of closing strips of an incontinence diaper

Figure 1 shows a schematic top view of the outer face of an absorbent incontinence diaper 2 in a state of having just been unfolded. The incontinence diaper comprises a main part 4 with a longitudinal centerline L consisting of a front area 6, a rear area 8, and a crotch area 12 lying between the two in the longitudinal direction L. It also shows an absorbent body 14, which is usually disposed between the chassis-forming materials of the main part, which is to say particularly between a topsheet 11 that is permeable to liquids and a backsheet 10 of the main part 4 that is impermeable to liquids. However, embodiments are also conceivable in which the absorbent body can be applied to a chassis-forming layer of the main part as a separate unit provided with leakage protection and can be detachably or non-detachably fixed there.

Furthermore, the incontinence diaper 2 comprises front side parts 16 and rear side parts 17 that are attached to the main part 4 on both sides as separate nonwoven material components. They are each rectangular in shape, which is not essential, but is advantageous in terms of avoiding wasteful offcuts. The side parts are non-detachably connected in an overlap area 18 shown hatched with the chassis-forming materials of the main part 4, that is, for example, with the backsheet 10 and/or the topsheet 11 for use as intended. They extend beyond the lateral longitudinal edges 5 of the main part 4 in the transverse direction Q of the main part 4. The side parts 16, 17 are intended to be connected to each other when the incontinence diaper is applied to form a hip region of the hygiene article that is continuous in the circumferential direction. For this purpose, the side parts 16, 17 provided on one side of the main part are connected. This is achieved with closure means 32 having mechanical closure aids 31, in particular, hooks of a hook-and-loop

fastener, of the closing strips 30 can be fixed on the outer face of the front side parts 16. Figure 11a shows an enlarged top view of the user end of one of the closing strips 30 having a closure means 32 that is constituted only by the section of mechanical closure aids 31 in the form of hooks of a hook-and-loop fastener. The width B of the section of mechanical closure aids 31 is 25 mm in this case, and its length A is 20 mm in this case. Figure 11b shows an alternative embodiment of the user end of a closing strip 30 with a closure means 32 that is constituted by one section of mechanical closure aids 31 and one section of adhesive closure aids in the form of a pressure-sensitive adhesive region 33, the width B of the closure means 32 being 25mm and the length A of the closure means 32 being 30mm.

At least the front side parts 16, preferably also the rear side parts 17, are constituted by a nonwoven material component, in the case shown in the diagram, by a PP spunbond nonwoven with a mass per unit area of 30 g/m^2 . The fiber thickness is 2 dtex. The outer face of the nonwoven material has an embossing pattern 20 that is only indicated schematically in figure 1. The joining regions produced by hot calender embossing are formed by a plurality of lines, that is, by two groups of lines extending parallel within each group, wherein the lines of one group intersect the lines of another group to form a regular rhombic pattern at an angle of 33° to produce unconnected rhombic loop regions 21 disposed in an island-like a fashion surrounded by line-like joining regions 22. The lines forming the joining regions 22 have a width of 1.0 mm in the case shown and an embossing depth of 0.6 mm. The distance between pairs of adjacent parallel lines of both groups of lines is 4.7 mm. The embossing area, that is, the sum of the area of all joining regions 22 with reference to the total area of the embossing pattern (joining regions + loop regions) is 32%.

The closure means 32 disposed on the inner face of the closing strips 30 of

the rear side parts 17 can reliably engage with these loop regions 21 without any risk of fibers coming loose from the nonwoven component to an excessive degree.

The outer face of the backsheet 10 of the main part 4 is constituted by a backsheet nonwoven material component 10a. The diagram in figure 2 (not to scale) shows that the backsheet is formed from a nonwoven film laminate, that is, a backsheet film component 10b is disposed between the absorbent body 14 and the backsheet nonwoven material component 10a. Figure 2 also schematically shows the joining regions 42 and the loop regions 41 of the embossing pattern 40. In the case shown, the backsheet nonwoven material component 10a is also made of a PP spunbond nonwoven, but with a mass per unit area of 20 g/m^2 . The fiber thickness is 2 dtex. The outer face of this spunbond nonwoven bears an embossing pattern 40, only indicated schematically in figure 1. In fact, the embossing pattern 40 extends over the entire outer face of the main part 4 from the front area 6, across the crotch area 12, to the rear area 8 of the incontinence diaper 2. The joining regions produced by hot calender embossing are constituted by a plurality of lines that mutually intersect to form a regular rhombic pattern so that unconnected rhombic loop regions 41 disposed in an island-like fashion are surrounded by line-like joining regions 42. In the case shown, the embossing pattern 40 of the backsheet nonwoven material component 10a is identical to the embossing pattern 20 of the nonwoven material component of the front side parts 16.

The over-abdomen retaining forces between the closure means 32 and the outer face of the side parts 16 are preferably at least 58 N/25mm and are higher than the over-abdomen retaining forces between the closure means 32 and the outer face of the backsheet nonwoven material component, which are preferably at least 20 N/25mm . This is essentially ensured by the higher

mass per unit area of the nonwoven component of the side parts.

Figure 3 schematically shows an alternative embossing pattern 50 produced by hot calendering for the nonwoven material components of the front side parts 16 and/or the backsheet 10. The embossing pattern 50 has joining regions that are formed by a plurality of lines and that mutually intersect to form a regular pattern so that unconnected triangular loop regions 51 disposed in an island-like a fashion are surrounded by line-like joining regions 52. The joining region, that is, the sum of the area of all joining regions 52 with reference to the total surface of the area of the nonwoven material covered by the embossing pattern 50 is 23% in this case.

Figure 4 shows a schematic representation (not to scale) of a variant of the embossing pattern 50 shown in figure 3. In this case, the embossing pattern is an open embossing pattern 60. The joining regions 62 surround the triangular loop regions 61 discontinuously, that is with gaps, but the joining regions 62 are formed from a plurality of, in particular, smaller sections of line-like joining points 63 that do not intersect; the joining regions 62 are therefore provided with interruptions 64. This results in overall better tactile characteristics, particularly in greater softness of a nonwoven material component provided with this embossing pattern 60. The line-like joining points 63 form the disconnected legs of a triangle. In a preferred embodiment of the open embossing pattern 60, the line-like joining points 63 have a length of 3 to 7 mm, particularly 4 to 5 mm. The joining points 63 preferably have a uniform length so that they form a plurality of equilateral triangles. The width of the joining points 63 is preferably 0.2 to 0.8 mm, particularly 0.4 to 0.6 mm. The embossing depth is preferably 0.2 to 1.0 mm, particularly 0.4 to 0.8 mm. The embossing area, that is, the sum of the area of all joining regions 62 with reference to the total area of the region covered by the embossing pattern 60 is preferably 15 to 50%, particularly 17 to 40%, more

particularly 19 to 25%. In the case shown in figure 4, the embossing area is approximately 21%.

Figure 5 shows a section of the rear area of an inventive embodiment of the incontinence diaper 2, wherein the schematically represented rear side part 17 has a reinforcing means 7 that is narrower than the side part 17 in the transverse direction Q. However, the reinforcing means 7 extends in the transverse direction Q beyond the side edge 5 of the main part 4.

The reinforcing means 7 partially extends over the overlap region 18, as is shown schematically in figure 5. It therefore extends both over the lateral side edge 5 toward the free end 27 of the side part 17 and toward the overlap region 18, that is, toward a longitudinal centerline L of the main part 4.

The reinforcing means 7 can be embodied in different ways just as long as it provides tear protection for the side section 17, particularly on application of a tensile force directed obliquely to the transverse direction Q on the side part 17 or the overlap area 18 on closure of the diaper by means of the closing strips 30 (not shown in figure 5). The reinforcing means 7 can, for example, be constituted by an additional reinforcing section, for example, nonwoven or film, or by any material with reinforcement properties. This can be applied to the material of the side section 17 by any joining method, particularly using an adhesive.

In a further embodiment which is not shown, the reinforcing means 7 is constituted by the material of the side part 17 itself by folding the side part 17 onto itself, particularly in the shape of a Z, wherein the folded configuration extends beyond the side edge 5 of the main part 4 in the transverse direction Q toward the free end of the side part 17.

An especially preferred incontinence diaper 2 has the following components relevant to the over-abdomen retaining forces.

As front side parts 16:

Material X: comprising 30 g/mm^2 polypropylene spunbond nonwoven, fiber thickness 2 dtex, hot calender embossing pattern on the outer face of the side part material according to figure 4, wherein the joining points 63 have a uniform length of 4.5 mm for a width of the joining points of 0.4 mm and for an embossing depth of 0.65 mm and an embossing area of 21.13%. The material can be obtained from Corovin GmbH Wohtorfer Str. 124, D-31201 Peine, Germany.

As backsheet 10:

Material Y: A nonwoven film laminate was used that preferably forms the complete outer face of main part 4 of the incontinence diaper 2. The nonwoven material component comprises a 20-g/ m^2 polypropylene spunbond nonwoven, fiber thickness 2 dtex, with a hot calender embossing pattern like that of the front side parts 16, that is, a hot calender embossing pattern according to figure 4, wherein the joining points 63 have a uniform length of 4.5 mm for a width of the joining points of 0.4 mm and an embossing depth of 0.65 mm and an embossing area of 21.13%, available from Corovin GmbH Wohtorfer Str. 124, D-31201 Peine, Germany. The film component is a blow-extruded film available from Rheinische Kunststoffwerke GmbH, Alkorstrasse 6, D-83512 Wasserburg, Germany. The film is made using 70% low-melting-point polypropylene compound (melting point approx. 137 to 143°C) and 30% high-melting-point polypropylene compound (melting point 158 to 164°C). The compounds comprise a mixture of polymer raw material plus 60% CaCO_3 (chalk). After the blow extrusion of the precursor film with a mass per unit area of 40 g/m^2 , the film was stretched in the machine direction using a mono axial MDO stretch device. In this way, the film was stretched to a stretch ratio of 1:2 in the machine direction, that is, to a mass per unit area of 20 g/m^2 and therefore made breathable. The breathable film was then thermolaminated at 130 to 140°C

together with the polypropylene spunbond nonwoven (20 g/m²) in a device such as is disclosed and described in figure 1 of DE102004042405A1. The nonwoven film laminate thus produced was then subjected to ring-rolling in the CD (transverse to the machine direction). This laminate was then subjected to heat treatment. The laminate passed through two hot rollers disposed one behind the other, whereby it was heated to a temperature above the melting point of the film but below the melting point of the polypropylene spunbond nonwoven, that is, to 130 to 140° C. After the second hot roller, the laminate was directly fed to cooling rollers disposed one behind the other. These had a circumferential velocity lower than that of the heating rollers by an amount equivalent to the desired shrinkage in the machine direction, in this case approximately 5%.

As closure means 32 having mechanical closure aids 31

Material Z: section of hooks of a hook-and-loop fastener with dimensions 20 x 25 mm. Type Microplast® 42-288-HX200-PP3, item number 25445, available from G. Binder GmbH & Co KG Textil- und Kunststofftechnik, Holzgerlingen, Federal Republic of Germany. The representation of the shape of these hooks of a hook-and-loop fastener is shown in figures 6 and 7. The hooks are mushroom-shaped (figure 6) with a hexagonal head surface 8 (figure 7). The hook density (number of hooks per unit area) is 288 hooks per cm². The material consists of polypropylene and has a thickness of 0.42 mm. It is manufactured by extrusion. The height of the mushroom-shaped protrusions over the base of the material is 0.26 mm. The distance between the edges of the hook heads is 200 µm.

The over-abdomen retaining forces of these materials determined as lateral forces according to the test method described above are as follows:

Outer face (embossing pattern side) of material X with material Z: 65.3
N/25mm

Outer face (nonwoven material side) of material Y with material Z: 48.6
N/25mm

The over-abdomen retaining forces of the closure means with the outer face of the side part material are therefore greater than the over-abdomen retaining forces of the closure means with the outer face of the nonwoven film laminate constituting the backsheet.

Claims

1. Absorbent incontinence diaper (2) with a rear area (8), a front area (6) and a crotch area (12) lying between these, and with first and second side edges (5), and with a main part (4) having an inner face directed toward the body and an outer face directed away from the body during use of the diaper, the main part (4) comprising an absorbent body (14) and a backsheet (10) on the side of the absorbent body (14) directed away from the body, the absorbent body (14) having a smaller width than the backsheet (10), and with side parts (16, 17) joined to the first and second side edges (5), the side parts (16, 17) having an inner face and an outer face, and the side parts (17) in the rear area having closure means (32) with mechanical closure aids (31) and wherein, in order to correctly secure the diaper on the body of a user, the mechanical closure means (31) can be secured detachably at least in regions both on the outer face of the main part (4) and also on the outer face of the side parts (16) in the front area (6) and wherein the retaining forces between the mechanical closure means (31) and the outer face of the main part are lesser than the retaining forces between the mechanical closure means (31) and the outer face of the side parts (16) in the front area (6).
2. Absorbent incontinence diaper (2) as set forth in claim 1, characterized in that the retaining forces determined as over-abdomen retaining forces between the closure means (32) having mechanical closure aids

(31) and the outer face of the main part are 57-20 N/25mm, particularly 50-25 N/25mm.

3. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the retaining forces determined as over-abdomen retaining forces between the closure means (32) having mechanical closure aids (31) and the outer face of the side parts in the front area are 90-58 N/25mm, particularly 80-60 N/25mm.
4. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the mechanical closure aids (31) comprise hooks of a hook-and-loop fastener.
5. Absorbent incontinence diaper (2) as set forth in claim 4, characterized in that at least one closure means (32) further comprises an adhesive closure aid, particularly a pressure-sensitive adhesive region.
6. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the incontinence diaper (2) has four discrete, not directly connected side parts (16, 17) such that one side part is attached to each of the two side edges (5) of the front area (6) and a further side part is attached to each of the two side edges (5) of the rear area (8).
7. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the incontinence diaper (2) has two discrete, not directly connected side parts such that the first side part is attached to the first side edge and a second side part is attached to the second side edge.
8. Absorbent incontinence diaper (2) as set forth in claim 7, characterized in that the first and the second side part each extend continuously from

the front area across the crotch area to the rear area.

9. Absorbent incontinence diaper (2) as set forth in claim 8, characterized in that the first and second side part have a leg cutout in the crotch area.
10. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the outer face of the main part is constituted by a nonwoven material at least in regions, in particular however, over its entire area.
11. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the backsheet (10) is constituted by a nonwoven film laminate, wherein the nonwoven material (10a) outside and the films (10b) inside come to lie facing the absorbent body (14) so that the nonwoven material constitutes the outer face of the main part (4).
12. Absorbent incontinence diaper (2) according to any one of claims 10-11 characterized in that the mass per unit area of the nonwoven material is $10\text{-}30\text{ g/m}^2$, particularly $14\text{-}25\text{ g/m}^2$ and more particularly $18\text{-}22\text{ g/m}^2$.
13. Absorbent incontinence diaper (2) as set forth in claim 11, characterized in that the film is constituted by a one- or multi-layer film that is impermeable to liquids but breathable.
14. Absorbent incontinence diaper according to any one of claims 10-13, characterized in that the nonwoven material or the nonwoven film laminate is subjected to temperature treatment above 60°C to improve the over-abdomen retaining forces.
15. Absorbent incontinence diaper (2) according to any one of claims 10-14, characterized in that the nonwoven material or the nonwoven film

laminate has been subjected to ring-rolling to improve the over-abdomen retaining forces.

16. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the outer faces of the side parts (16, 17) in the front and/or rear area are constituted by a nonwoven material.
17. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the side parts (16, 17) in the front and/or rear area are constituted by a nonwoven material that is permeable to air and water vapor.
18. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the mass per unit area of the side parts (16, 17) in the front and/or rear area is $18\text{-}60\text{ g/m}^2$, particularly $25\text{-}45\text{ g/m}^2$, more particularly $27\text{-}40\text{ g/m}^2$ and more particularly $28\text{-}35\text{ g/m}^2$.
19. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the breathability of the side parts (16, 17) in the front and/or rear area is greater than the breathability of the backsheet (10).
20. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the side parts (16, 17) in the front and/or rear area are folded upon themselves at least about one folding line extending in the longitudinal direction.
21. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that partial sections of the side parts (16, 17) folded upon each other and lying against one another over an

area are detachably fixed to each other in this folded configuration at joining points or joining regions.

22. Absorbent incontinence diaper (2) as set forth in any one of the preceding claims, characterized in that the side parts (16, 17) in the front and/or rear area have a reinforcing means (7) that, viewed in the transverse direction (Q), is narrower than each side part (16, 17) and that is provided at least in a region overlapping the side edge (5) of the main part (4), that is, it overlaps both a lateral side edge region of the main part (4) and part of the side part (16, 17) in the transverse direction (7).

Abstract

The invention relates to an absorbent incontinence diaper (2) with a rear area (8), a front area (6) and a crotch area (12) lying between these, and with first and second side edges (5), and with a main part (4) having an inner face directed towards the body and an outer face directed away from the body during use of the diaper, the main part (4) comprising an absorbent body (14) and a backsheet (10) on the side of the absorbent body (14) directed away from the body, the absorbent body (14) having a smaller width than the backsheet (10), and with side parts (16,17) joined to the first and second side edges (5), the side parts (16,17) having an inner face and an outer face, and the side parts (17) in the rear area having closure means (32) with mechanical closure aids (31). To correctly secure the diaper on the body of a user, the mechanical closure means (31) can be secured detachably at least in regions both on the outer face of the main part (4) and also on the outer face of the side parts (16) in the front area (6). The retaining forces between the mechanical closure means (31) and the outer face of the main part are lesser than the retaining forces between the mechanical closure means (31) and the outer face of the side parts (16) in the front area (6).



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/798,242	03/13/2013	Susanne Beckert	HAR-788C2

CONFIRMATION NO. 4782

42532
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

PUBLICATION NOTICE



OC000000062968733

Title:Absorbent incontinence article with improved closure system

Publication No.US-2013-0197464-A1

Publication Date:08/01/2013

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/798,242	03/13/2013	Susanne Beckert	HAR-788C2

42532
PROSKAUER ROSE LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110

CONFIRMATION NO. 4782
POA ACCEPTANCE LETTER



Date Mailed: 07/29/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 07/19/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/hsarwari/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/798,242	03/13/2013	Susanne Beckert	1703 1923US3

CONFIRMATION NO. 4782

POWER OF ATTORNEY NOTICE

29894
DREISS, FUHLENDORF, STEIMLE & BECKER
POSTFACH 10 37 62
D-70032 STUTTGART,
GERMANY



Date Mailed: 07/29/2013

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 07/19/2013.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/hsarwari/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS	Application Number	13/798,242
	Filing Date	March 13, 2013
	First Named Inventor	Beckert, Susanne
	Title	Absorbent Incontinence Article w.....
	Art Unit	3761
	Examiner Name	Stephens, Jacqueline F.
	Attorney Docket Number	HAR-788G2

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

42532

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified application to:

☐ The address associated with the above-mentioned Customer Number.

OR

☒ The address associated with Customer Number:

42532

OR

<input type="checkbox"/> Firm or Individual Name				
Address				
City		State		Zip
Country				
Telephone		Email		

I am the:

☐ Applicant/Inventor.

OR

☒ Assignee of record of the entire interest. See 37 CFR 3.71.

Statement under 37 CFR 3.73(b) (Form PTO/SB/96) submitted herewith or filed on _____

SIGNATURE of Applicant or Assignee of Record

Signature	<i>Eckhard Oltmann</i>	Date	July 19, 2013
Name	ECKHARD OLTMANN	Telephone	+497321363890
Title and Company	VICE PRESIDENT, PAUL HARTMANN AG		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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.

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Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Paul Hartmann AG

Application No./Patent No.: 13/798,242

Filed/Issue Date: March 13, 2013

Titled:

Paul Hartmann AG, a German Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 022622, Frame 0046, or for which a copy therefore is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
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3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Eckhard Oltmann
Signature

ECKHARD OLTMANN
Printed or Typed Name

July 19, 2013
Date

VICE PRESIDENT
Title

This collection of information is required by 37 CFR 3.73(b). 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 1.11 and 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.

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	16365259
Application Number:	13798242
International Application Number:	
Confirmation Number:	4782
Title of Invention:	Absorbent incontinence article with improved closure system
First Named Inventor/Applicant Name:	Susanne Beckert
Customer Number:	29894
Filer:	Gerald E. Worth
Filer Authorized By:	
Attorney Docket Number:	1703 1923US3
Receipt Date:	19-JUL-2013
Filing Date:	13-MAR-2013
Time Stamp:	15:31:04
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	Transmittal Letter	HAR788C2_Transmittal.pdf	263200 4f2bc249b63e2d6b94e89d0ed798011dc4398660	no	2

Warnings:

Information:

2	Power of Attorney	HAR788C2_Rev_POA.pdf	162350	no	2
			ec73564f321acddb9cf31258883a62aba9380a2		
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73.	HAR788C2_Statement_373b.pdf	157705	no	2
			5a34e9295d1be72f80f932ecbab53530bd8b563c		
Warnings:					
Information:					
Total Files Size (in bytes):			583255		
<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>					

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	13/798,242	
	Filing Date	March 13, 2013	
	First Named Inventor	Beckert, Sussanne	
	Art Unit	3761	
	Examiner Name	Stephens, Jacqueline F.	
Total Number of Pages in This Submission	6	Attorney Docket Number	HAR-788C2

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input checked="" type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): - Statement under 37 CFR 3.73(b)
Remarks The Director is hereby authorized to charge any fee due upon submission of this mailing to Deposit Account No. 50-3081.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	Proskauer Rose LLP		
Signature	/Gerald E. Worth 45,238/		
Printed name	Gerald E. Worth		
Date	July 19, 2013	Reg. No.	45,238

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. 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 1.11 and 1.14. This collection is estimated to 2 hours 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.**

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

13/798,242

03/13/2013

Susanne Beckert

1703 1923US3

4782

29894

7590

07/02/2013

DREISS, FUHLENDORF, STEIMLE & BECKER
POSTFACH 10 37 62
D-70032 STUTTGART,
GERMANY

EXAMINER

STEPHENS, JACQUELINE F

ART UNIT

PAPER NUMBER

3761

MAIL DATE

DELIVERY MODE

07/02/2013

PAPER

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.

Office Action Summary	Application No. 13/798,242	Applicant(s) BECKERT ET AL.	
	Examiner JACQUELINE STEPHENS	Art Unit 3761	

-- 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 ____.
- 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) 1-38 is/are pending in the application.
 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) ____ is/are rejected.
- 8) ☒ Claim(s) 1-38 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) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3-6, 11, 19, 30, 33-36 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.
3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 3-6, 11, 19, 30,

Art Unit: 3761

33-36 recite the broad recitation of an area, and the claim also recites a narrower limitation of an area.

Double Patenting

4. 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).

Claims 1-38 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 8152788.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application is a broader recitation of the claims of the patent in that it does not specifically set forth a the folded side parts.

Claims 1-38 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of application 13404019. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application claims the mechanical closure aids on the side parts of the rear and the '019 application claims the mechanical closure aids cooperating with side parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the mechanical closure aids on either the front or rear side parts since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACQUELINE STEPHENS whose telephone number is (571)272-4937. The examiner can normally be reached on Monday-Friday 9:00-5:30.

Art Unit: 3761

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tanya Zalukaeva can be reached on (571) 272-1115. 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.

/Jacqueline F Stephens/
Primary Examiner, Art Unit 3761

Search Notes

Application/Control No.

13/798,242

Examiner

JACQUELINE STEPHENS

Applicant(s)/Patent under
Reexamination

BECKERT ET AL.

Art Unit

3761

SEARCHED

Class	Subclass	Date	Examiner
604	385.24	6/30/2013	JFS
	385.26		
	385.28		
	385.3		
	385.03		
	367		

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
East	6/30/13	JFS



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/798,242	03/13/2013	Susanne Beckert	1703 1923US3

CONFIRMATION NO. 4782

POA ACCEPTANCE LETTER

29894
DREISS, FUHLENDORF, STEIMLE & BECKER
POSTFACH 10 37 62
D-70032 STUTTGART,
GERMANY



Date Mailed: 06/10/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/23/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/tkim/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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MAY 23 2013

Doi Order: OATH - Document Description: Oath or declaration filed		Customized PTO/SD-01 (04-09) + PTO/SD-08 (08-12)	
DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63) <i>(For ALL US applications filed before, on or after Sept. 16, 2012)</i>		Docket No.	1703 1923US3
		1 st Inventor	BECKERT, Susanne
		COMPLETE IF KNOWN	
		Appl. No.	13/798,242
<input type="checkbox"/> Declaration Submitted with Initial Filing		Filing Date	March 13, 2013
<input checked="" type="checkbox"/> Declaration Submitted after Initial Filing		Art Unit	
		Examiner	
TITLE OF INVENTION		Absorbent incontinence article with improved closure system	
As the below named inventor(s), I (we) hereby declare that: This declaration is directed to: <input type="checkbox"/> The attached application, <input checked="" type="checkbox"/> US or PCT International Application No. 13/798,242 filed on March 13, 2013 [and amended on (if applicable)]			
The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than (5) years, or both.			
Further, I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought; I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above; and I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the National or PCT International filing date of the continuation-in-part application.			
All statements made herein of my/our own knowledge are true, all statements made herein on information and belief are believed to be true, and further these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 USC 1001 and may jeopardize the validity of the application or any patent issuing thereon.			
Correspondence Address Indication		CUSTOMER NUMBER 29894	
Please direct all correspondence to the address of this Customer Number.			
LEGAL NAME OF SOLE OR FIRST INVENTOR		Citizenship: German	
Given Name (First and Middle (if any))	Susanne	FAMILY NAME or SURNAME	Beckert
Full Mailing Address: Friedenstrasse 10, 89073 Ulm, Germany			
Residence - City, State, Country (if different from mailing address): "same as above"			
SIGN AND DATE HERE		Date	
Inventor's Signature: <i>X Susanne Beckert</i>		Date: <i>X 25.03.2013</i>	
LEGAL NAME OF ADDITIONAL JOINT INVENTOR		Citizenship: German	
Given Name (First and Middle (if any))	Ruediger	FAMILY NAME or SURNAME	Kesselmeier
Full Mailing Address: Guxenter-Grass-Weg 2, 89542 Herbrechtingen, Germany			
Residence - City, State, Country (if different from mailing address): "same as above"			
SIGN AND DATE HERE		Date	
Inventor's Signature: <i>X Ruediger Kesselmeier</i>		Date: <i>X 28.03.2013</i>	
LEGAL NAME OF ADDITIONAL JOINT INVENTOR		Citizenship:	
Given Name (First and Middle (if any))		FAMILY NAME or SURNAME	
Full Mailing Address:			
Residence - City, State, Country (if different from mailing address): "same as above"			
SIGN AND DATE HERE		Date	
Inventor's Signature:			
<input type="checkbox"/> Additional inventors named on supplemental sheet provided herewith			

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17024774

Doc Code: PA--

Document Description: Power of Attorney

MAY 23 2013

PTO/AIA/82B(07-12)

Approved for use through 11/30/2014. OMB 0651-0035

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in the attached transmittal letter.

- ☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

29894

OR

- ☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

Name	Registration Number	Name	Registration Number

Please recognize or change the correspondence address for the application identified in the attached transmittal letter to:

- ☒ The address associated with the above-mentioned Customer Number.

OR

- ☐ The address associated with Customer Number:

OR

<input type="checkbox"/> Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

I am the Applicant:

- ☐ Inventor or Joint Inventor
☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

SIGNATURE of Applicant for Patent

Signature	<i>[Signature]</i>	Date	25.05.2013
Name	ppa. D. Oltmann i.V. Dr. Decker	Telephone	+49 732/363885
Title and Company	PAUL HARTMANN AG		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below.

- ☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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 1460, Alexandria, VA 22313-1460.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No.: 571-273-8300) on May 23, 2013. The communication includes 4 pages.

Signature of Sender:

L. Minder

Name of Sender:

L. MinderRECEIVED
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MAY 23 2013

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Paul Hartmann AG
Application No.: 13/798,242
Filing Date: March 13, 2013
For: ABSORBENT INCONTINENCE ARTICLE WITH
IMPROVED CLOSURE SYSTEM

Atty. Docket No.: 1703 1923US3

TRANSMITTAL LETTER FOR DECLARATION
AND POWER OF ATTORNEY

Commissioner for Patents
Alexandria, VA 22313-1450
U.S.A.

Transmitted herewith are a declaration and a power of attorney in the above identified application. Please note the following crossed items:

- (X) No additional fee is required.
() The fee has been calculated as shown below:

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MAY 23 2013

- (X) Declaration and Power of attorney are enclosed.
- () The Commissioner is hereby authorized to charge payment of fees associated with this communication or credit any overpayment to Deposit Account Number 50-1030.
- () Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for additional extension of time.
- () An Information Disclosure Statement is also enclosed.

Respectfully submitted,

/Paul Vincent/

Dr. Paul Vincent

Reg. No. 37,461

Dreiss Patentanwälte
Postfach 10 37 62
D-70032 Stuttgart
Federal Republic of Germany
Telephone: ++49/711-24 89 38-0
Fax: ++49/711-24 89 38-99



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/798,242	03/13/2013	Susanne Beckert	1703 1923US3

CONFIRMATION NO. 4782

29894
DREISS, FUHLENDORF, STEIMLE & BECKER
POSTFACH 10 37 62
D-70032 STUTTGART,
GERMANY

NOTICE



Date Mailed: 04/22/2013

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):

All

Applicant may submit the inventor's oath or declaration at any time before the Notice of Allowance and Fee(s) Due, PTOL-85, is mailed.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 13/798,242				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	600			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720			
TOTAL CLAIMS (37 CFR 1.16(j))	38	minus 20 = *	18			x 80 =	1440			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *				x 420 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s)) If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 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).							0.00			
							0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL		TOTAL	3040			
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE			TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE			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 found in the appropriate box in column 1.										



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/798,242	03/13/2013	3761	2506	1703 1923US3	38	2

CONFIRMATION NO. 4782

29894
DREISS, FUHLENDORF, STEIMLE & BECKER
POSTFACH 10 37 62
D-70032 STUTTGART,
GERMANY

FILING RECEIPT



Date Mailed: 04/22/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

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Patentanmeldung Nr.

Patent application No.

Demande de brevet n°

06022450.8 / EP06022450

The organization code and number of your priority application, to be used for filing abroad under the Paris Convention, is EP06022450

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
p.o.

R.C. van Dijk



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Bezeichnung der Erfindung/Title of the invention/Titre de l'invention:
(Falls die Bezeichnung der Erfindung nicht angegeben ist, siehe Beschreibung.
If no title is shown please refer to the description.
Si aucun titre n'est indiqué se référer à la description.)

Absorbierender Inkontinenzartikel mit verbessertem Verschlusssystem

In anspruch genommene Priorität(en) / Priority(ies) claimed / Priorité(s) revendiquée(s)
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10 **Titel: Absorbierender Inkontinenzartikel mit verbessertem Verschlusssystem**

Beschreibung

15

Die vorliegende Erfindung betrifft eine absorbierende Inkontinenzwindel mit einem Rückbereich, einem Vorderbereich und einem dazwischen liegenden Schrittbereich und mit erstem und zweitem Seitenrand, und mit einem Hauptteil mit einer in
20 Gebrauch dem Körper zugewandten Innenseite und einer in Gebrauch dem Körper abgewandten Außenseite, wobei der Hauptteil einen Saugkörper und ein Backsheet auf der dem Körper abgewandten Seite des Saugkörpers umfasst, und wobei der Saugkörper eine geringere Breite aufweist als das Backsheet, und mit an den ersten und zweiten Seitenrand angefügten diskreten Seitenteilen. Die Inkontinenzwindel ist
25 für Erwachsene vorgesehen und ist als Wegwerfwindel ausgebildet, das heißt zum einmaligen Gebrauch bestimmt.

Derartige Inkontinenzwindeln sind beispielsweise auch aus der WO2004/105668A1 bekannt.

30

Bei derartigen Inkontinenzwindeln können die erwähnten Seitenteile aus einem anderen Material gebildet sein als der Hauptteil. Beispielsweise können die Seitenteile, die häufig auch als „Ohren“ der Inkontinenzwindel bezeichnet werden,

atmungsaktiv, insbesondere luft- und wasserdampfdurchlässig ausgebildet werden, wohingegen der Hauptteil, der häufig auch als Chassis bezeichnet wird, flüssigkeitsundurchlässig, insbesondere feuchtigkeitsundurchlässig ausgeführt sein kann. Zum Schließen der Inkontinenzwindel werden die vorzugsweise unlösbar am

5 Rückbereich angefügten Seitenteile auf die Bauchseite des Benutzers geschlagen und dort entweder mit der Außenseite des Vorderbereichs des Hauptteils oder mit der Außenseite der Seitenteile des Vorderbereichs lösbar verbunden.

Insoweit eine derartige Inkontinenzwindel mit mechanischen Verschlusshilfen

10 ausgestattet wird, resultiert das Problem, dass für die üblicherweise an den hinteren Seitenteilen angeordneten meist als Kletthaken ausgeführten Verschlusshilfen ein entsprechender Landebereich an der Außenseite des Vorderbereichs der Windel vorgesehen sein muss, der mit den Kletthaken in Eingriff bringbar sein muss.

15 Üblicherweise wird die Außenseite des Hauptteils derartiger Inkontinenzwindeln allerdings durch ein Folienmaterial gebildet, um ein Austreten von Flüssigkeit durch den Saugkörper hindurch nach außen zu verhindern. Die Seitenteile derartiger Inkontinenzwindeln sind vorzugsweise aus glatten Vliesmaterialien gebildet, um dort, wo keine sichere Flüssigkeitsbarriere erforderlich ist, die Hautfreundlichkeit der

20 Windel zu verbessern. Somit würde eine Landefläche zum sicheren Festlegen der Kletthaken auf der Außenseite des Vorderbereichs der Windel das Anbringen eines zusätzlichen Materials, insbesondere eine an sich bekannte textile Loop-Komponente erfordern. Derartige Loop-Komponenten müssten sich allerdings über weite Teile des Vorderbereichs der Außenseite der Windel erstrecken, um das bei

25 Inkontinenzwindeln (Windeln für Erwachsene) erforderliche hohe Maß an Flexibilität in der Größenanpassung zu gewährleisten. Da textile Loop-Komponenten einen wesentlichen Kostenfaktor bilden, verbietet sich eine derartige Lösung schon aus wirtschaftlichen Gründen.

30 Des Weiteren hat sich bei Inkontinenzwindeln der bekannten Art gezeigt, dass das subjektive Empfinden des Komforts der Windel trotz der hautfreundlichen und luft- wie wasserdampfdurchlässigen Seitenteile deutliche Unterschiede ausweist.

Zur Lösung dieser Probleme wird vorgeschlagen, dass die mechanische Verschlusshilfen aufweisenden Verschlussmittel zum bestimmungsgemäßen Festlegen der Windel an den Körper eines Menschen zumindest bereichsweise sowohl direkt an der Außenseite des Hauptteils als auch direkt an der Außenseite der Seitenteile im Vorderbereich lösbar festlegbar sind, wobei die Haltekräfte zwischen den Verschlussmitteln und der Außenseite des Hauptteils geringer sind als die Haltekräfte zwischen den Verschlussmitteln und der Außenseite der Seitenteile im Vorderbereich der Windel. Vorzugsweise werden die Haltekräfte als Über-Bauch-Haltekräfte ermittelt.

Die die Außenseite des Hauptteils und die die Außenseite der Seitenteile im Vorderbereich bildenden Materialien sind also erfindungsgemäß so gewählt, dass sie neben ihren jeweiligen Primärfunktionen auch als Landefläche für die mit mechanischen Verschlusshilfen versehenen Verschlussmittel dienen können.

Überraschenderweise hat sich außerdem gezeigt, dass dann, wenn die Haltekräfte zwischen den Verschlussmitteln und der Außenseite des Hauptteils geringer sind als die Haltekräfte zwischen den Verschlussmitteln und der Außenseite der Seitenteile im Vorderbereich der Windel die Nutzer der Windel dazu tendieren, die Windel so zu schließen, dass die Verschlussmittel an der Außenseite der Seitenteile im

Vorderbereich der Windel festgelegt werden. Dies wiederum erhöht den Tragekomfort, da hiermit ein Überlappen der Seitenteile mit dem Backsheet vermieden wird, wodurch erst das Wirksamwerden der Vorteile der Luft- und Wasserdampfdurchlässigkeit der Seitenteile ungehindert möglich wird. Außerdem ist die Gefahr des Beschädigens des Backsheets des Hauptteils und damit die Gefahr des Durchschlagens von Flüssigkeit durch die mechanischen Verschlusshilfen reduziert.

Wesentlich ist, dass auch die Haltekräfte zwischen der Außenseite des Hauptteils und den mechanische Verschlusshilfen aufweisenden Verschlussmitteln einen Halt der Windel am Körper gewähren. Hierzu hat es sich als vorteilhaft erwiesen, wenn die Über-Bauch-Haltekräfte zwischen den Verschlussmitteln und der Außenseite des Hauptteils 57-20 N/25mm, insbesondere 50-25 N/25mm betragen.

Des Weiteren betragen die Über-Bauch-Haltekräfte zwischen den Verschlussmitteln und der Außenseite der Seitenteile im Vorderbereich vorzugsweise 90-58 N/mm, insbesondere 80-60 N/25mm.

- 5 Zur Bestimmung der Über-Bauch-Haltekräfte werden die Verschlusskräfte bei Scherbeanspruchung gemessen. Nachfolgend wird eine Prüfmethode für die Ermittlung der Verschlusskräfte bei Scherbeanspruchung angegeben:

- 10 Für die Durchführung der Prüfmethode kann ein Zugprüfgerät Typ Z010 / TN 2S, Messdose 100 N, erhältlich bei der Firma Zwick GmbH & Co KG, Ulm, Deutschland, mit einer Klemmbakenbreite zum Einspannen des Prüflings von 60 mm verwendet werden. Bei der Durchführung der Prüfmethode wird das zu prüfende Verschlusssystem mit einer Schlaufen-Komponente und einem darauf haftenden mechanische Verschlusshilfen aufweisenden Verschlussmittel über eine gekrümmte Fläche gelegt, welche eine Rundung des Bauchbereichs eines Benutzers simulieren soll (siehe Figur 8). Zur Verbindung der Verschlusskomponenten mit den Klemmbaken des Zugprüfgeräts wird ein biegsames Substrat, beispielsweise ein einseitig klebendes Klebeband einer bevorzugten Breite von 25 mm, bzw. 50 mm, das unter der Bezeichnung STA 306 bei der Firma 3M Deutschland GmbH ansässig in Neuss erhältlich ist, verwendet. Das Klebeband ist aus Polypropylen, seine Oberfläche ist beschichtet durch ein urethanmodifiziertes Siliconpolymer. Das Flächengewicht des Haftklebstoffauftrags beträgt 23 g/m². Der über die gekrümmte Fläche gelegte Prüfling, bestehend aus aufeinander haftenden flächenhaften Abschnitten des Verschlusssystems, wird durch Verwendung des Zugprüfgeräts auf Zug beansprucht, woraus sich eine scherende Beanspruchung der aneinander haftenden flächenhaften Abschnitte ergibt.

Probenvorbereitung:

- 30 Die zu verwendenden mechanischen Verschlusskomponenten, also das Material der die Außenseite der vorderen Seitenteile oder des Hauptteils bildenden Schlaufen-Komponente 106 und ein mechanische Verschlusshilfen aufweisendes Verschlussmittel 108 des Verschlusssystems, werden über 24 h bei 23° C und 50 % relativer Luftfeuchte konditioniert. Wie unten noch näher beschrieben werden wird,

kann es sich bei der Schlaufen-Komponente beispielsweise um einen Vliesstoff oder ein Vliesfolienlaminat handeln. Es werden Prüflinge einer Größe von 50 × 300 mm aus der Schlaufen-Komponente ausgestanzt und sandwichartig mittig durch zwei mit ihren Klebeflächen gegeneinander geklebte einseitige Klebebänder 101 einer Breite von 50 mm derart fixiert, dass das untere Klebeband die Rückseite des flächenhaften Abschnittes überfängt und das obere Klebeband die obere Seite (bei einem Vliesfolienlaminat ist die obere Seite die Vliesseite) der Schlaufen-Komponente in der Länge um 50 mm einfasst, so dass ein Überstand der Schlaufen-Komponente von 50 × 250 mm resultiert (siehe Figur 9a, Figur 9b). Desgleichen wird das mechanische Verschlusshilfen aufweisende Verschlussmittel 108 über seine volle Länge, das heißt der gleichen Länge, die bei der Inkontinenzwindel vorgesehen wird – im dargestellten Fall über 20 mm –, und in einer Breite von 25 mm ausgestanzt und durch zwei mit ihren Klebeflächen gegeneinander geklebte einseitige Klebebänder 141 einer Breite von 25 mm derart fixiert, dass das obere Klebeband die Rückseite des flächenhaften Abschnittes überfängt und das untere Klebeband bündig an den flächenhaften Abschnitt angrenzt (siehe Figur 9a und Figur 9b). Der flächenhafte Abschnitt der mechanische Verschlusshilfen aufweisenden Verschlussmittel 108 wird nun auf die Schlaufen-Komponente 106 aufgelegt, wobei der Abstand von der Längsendkante der Schlaufen-Komponente 10 mm und von den seitlichen Längsrändern je 12,5 mm betragen soll (s. Figur 9a). Wenn die zur Verfügung stehende Schlaufen-Komponente 106 von vornherein eine kleinere Abmessung aufweist, so dass keine Bereitstellung eines 50 mm × 300 mm großen Prüflings möglich ist, wird die Größe des Prüflings mit einer Breite von 25 mm und einer derart bemessenen Länge gewählt und dieser Abschnitt sandwichartig mittig zwischen die Enden zweier einseitiger oben näher gekennzeichnete Klebebänder 101 einer Breite von 25 mm derart fixiert, dass das untere Klebeband die Rückseite des flächenhaften Abschnittes überfängt und das obere Klebeband die obere Seite der Schlaufen-Komponente in der Länge derart einfasst, dass die Länge des Überstandes der Schlaufen-Komponente der Länge des Abschnittes des mechanischen Verschlusshilfen aufweisenden Verschlussmittels 108 entspricht (siehe Figur 9c, Figur 9d). Solchenfalls werden die so vorbereiteten Abschnitte des mechanische Verschlusshilfen aufweisenden Verschlussmittels 108 und der Schlaufen-Komponente 106 vollflächig übereinander gelegt (Figur 9c, Figur 9d).

Sollte kein 25 mm breiter Abschnitt des mechanische Verschlusshilfen aufweisenden Verschlussmittels 108 zur Verfügung stehen, wird ein entsprechend schmalerer Abschnitt verwendet. Solchenfalls werden die ermittelten Kraftwerte rechnerisch auf
5 einen 25 mm breiten Abschnitt normiert, derart dass die gemessenen Kräfte mit einem Faktor f multipliziert werden, welcher sich ergibt aus $f = \frac{25}{x}$, wobei x die Breite des Prüflings gemessen in mm ist.

Die so oder auf die zuvor beschriebene Art aufeinander gelegten flächenhaften
10 Abschnitte werden durch viermaliges Anrollen mit einer 50 mm breiten und im Durchmesser 100 mm starken Rolle mit glatter Oberfläche und einem Rollengewicht von 5 kg miteinander verbunden, wobei die Anrollgeschwindigkeit 20-100 mm/sec beträgt.

15 **Prüfverfahren:**

Die wie vorstehend beschrieben verlängerte Schlaufen-Komponente 106 wird in die untere Klemmbacke 122 des Zugprüfgeräts mittig zentriert eingespannt, und das gegenüberliegende Ende des wie vorstehend beschrieben verlängerten mechanische Verschlusshilfen aufweisenden Verschlussmittels 108 wird in die
20 bewegliche obere Klemmbacke 123 des Zugprüfgeräts ebenfalls zentriert eingespannt. Der so eingespannte Prüfling wird über die aus Figur 8, Figur 10 ersichtliche Vorrichtung 100, welche den Bauch- oder Hüftbereich eines Benutzers simulieren soll, gelegt. Diese Vorrichtung 100 ist in Figur 10 perspektivisch dargestellt. Man erkennt eine bogenförmig gekrümmte Fläche 102 aus poliertem
25 Stahl mit einer Rautiefe von 5 bis 25 mm und mit einem Krümmungsradius R von zumindest abschnittsweise 400 mm und einer Sehnenlänge SL von 300 mm. Des Weiteren sind oberhalb und unterhalb der gekrümmten Fläche 102 Umlenkrollen 104 mit einem Durchmesser von 18 mm vorgesehen, welche den über die gekrümmte Fläche gelegten Prüfling in die vertikale Richtung um $H = 88$ mm umlenken, wo er
30 dann mit Klemmen 120, 124 des nicht dargestellten Zugprüfgeräts verbunden wird. Die Umlenkung erfolgt um einen Winkel α von 60° . Hierdurch wird der Abzugswinkel im Wesentlichen tangential zu der gekrümmten Fläche und konstant gehalten. Die aufeinander gelegten flächenhaften Abschnitte 106, 108 der Komponenten des

Verschlussmittels werden in Bezug auf die gekrümmte Fläche 102 so positioniert, dass das mechanische Verschlusshilfen aufweisende Verschlussmittel mittig zentriert im Scheitelpunkt 5 der gekrümmten Fläche 102 zu liegen kommt. Es wird dann die bewegliche Klemmbacke 124, mit der das mechanische Verschlusshilfen

5 aufweisende Verschlussmittel verbunden ist, mit der nachfolgend angegebenen Prüfgeschwindigkeit in Pfeilrichtung P bewegt, und es wird währenddessen die dabei auftretende Zugkraft zwischen den Klemmen ermittelt. Die Prüfparameter sind:

- Prüfgeschwindigkeit: 300 mm/min
- 10 - Einspannlänge des Prüflings: 430 mm (s. Figur 8)
- Messweg: Strecke bis zur Ablösung der Verschlussmittelkomponenten voneinander
- Vorkraft: 0,2 N
- Prüfanzahl: $n \geq 6$.

15 Die Auswertung erfolgt dergestalt, dass die bis zum voneinander Ablösen der Verschlussmittel ermittelte Maximalkraft gerundet auf zwei Dezimalstellen in N (Newton) notiert wird und in Form eines Mittelwerts der n-Messungen angegeben wird.

20 Als mechanische Verschlusshilfen kommen insbesondere Kletthaken in der im Stand der Technik bekannten Form in Frage. Vorzugsweise ist jeweils ein die Kletthaken aufweisender Abschnitt in an sich bekannter Form auf einem jeweiligen Verschlussstreifenmaterial auflaminiert. Ein jeweiliger Verschlussstreifen ist vorzugsweise an einem freien Ende des jeweiligen Seitenteils verankert und weist

25 seinerseits ein freies User-Ende mit den mechanischen Verschlusshilfen auf.

Es ist aber auch denkbar und vorteilhaft, auf jeden der Verschlussstreifen mehrere voneinander beabstandete Kletthaken aufweisende Abschnitte vorzusehen. Solchenfalls weist der Verschlussstreifen eine geringere Steifigkeit auf und kann sich

30 der Rundung des Körpers im Tragezustand der Windel besser anpassen. Vorzugsweise weisen die einzelnen die Kletthaken aufweisenden Abschnitte eine Breite, das heißt eine Erstreckung in Querrichtung der Windeln von 1 - 10 mm,

insbesondere 2-6 mm auf. Der Abstand zwischen den einzelnen Abschnitten beträgt insbesondere 0,1 - 3 mm, weiter insbesondere 0,7 - 2 mm.

Des Weiteren ist denkbar und vorteilhaft, das Verschlussstreifenmaterial wenigstens
5 bereichsweise elastisch dehnbar auszubilden.

Des Weiteren ist denkbar und vorteilhaft, neben den mechanischen Verschlusshilfen, die als mechanische Elemente wie vorzugsweise Kletthaken ausgeführt sind, außerdem klebende Verschlusshilfen, wie haftklebende Bereiche auf dem
10 Verschlussstreifen vorzusehen, um die Haftung zum Zwecke des Primärverschlusses oder sekundär zum Zwecke der Entsorgung der gebrauchten Windel noch sicherer zu gewährleisten. Die Haftklebezonen können insbesondere in einem äußeren, das heißt dem freien Ende eines Verschlussstreifens unmittelbar benachbarten Bereich eines jeweiligen Verschlussstreifens vorgesehen sein.

15 Des Weiteren ist denkbar, die die mechanischen Verschlusshilfen aufweisenden Verschlussmittel direkt auf der Innenseite der Seitenteile zu verankern. Solchenfalls wären die Verschlussmittel also nicht auf einem sich über das freie Ende des Seitenteils hinauserstreckenden Verschlussstreifen angeordnet, sondern innerhalb
20 des Seitenrandes der Seitenteile.

In einer bevorzugten Ausführungsform weist die absorbierende Inkontinenzwindel vier diskrete, nicht direkt miteinander verbundene Seitenteile auf, derart, dass je ein Seitenteil an beiden Seitenrändern des Vorderbereichs und je ein weiteres Seitenteil
25 an beiden Seitenrändern des Rückbereichs angefügt ist. Solchenfalls verbleibt der zwischen den vorderen und hinteren Seitenteilen liegende Schrittbereich der Windel seitenteilfrei, was der Luftzirkulation der Windel im angelegten Zustand zugute kommt. Zudem ist auf diese Art und Weise gleichsam produktionsabfallfrei (ohne Beinausschnitt) der Schrittbereich der Windel gebildet.

30 In einer alternativen Ausführungsform weist die Inkontinenzwindel hingegen lediglich zwei diskrete nicht direkt miteinander verbundene Seitenteile auf, derart, dass ein erstes Seitenteil an den ersten Seitenrand angefügt ist und ein zweites Seitenteil an

den zweiten Seitenrand angefügt ist. Solchenfalls erweist es sich als vorteilhaft, wenn das erste und zweite Seitenteil sich jeweils kontinuierlich vom Vorderbereich über den Schrittbereich bis in den Rückbereich erstrecken. Insbesondere erweist es sich hinsichtlich einer wirtschaftlichen Fertigung, so wie einer ansprechenden Optik
5 der Windel als vorteilhaft, wenn die Seitenteile bündig mit den Querenden des Hauptteils abschließen.

Zumindest im Vorderbereich vorzugsweise auch im Rückbereich weisen die Seitenteile vorzugsweise eine Vlieskomponente auf, insbesondere sind die
10 Seitenteile folienfrei ausgebildet, weiter insbesondere bestehen die Seitenteile aus einer ein- oder mehrlagigen Vlieskomponente.

Die Außenseite des Hauptteils der Inkontinenzwindel wird vorzugsweise zumindest bereichsweise, insbesondere aber vollflächig durch einen Vliesstoff gebildet.
15 Vliesstoffe sind im Vergleich zu textilen Loop-Komponenten erheblich günstiger und außerdem als überaus hautfreundlich bekannt. Sie vermitteln der Inkontinenzwindel außerdem einen „textile-like“ Eindruck. Solchenfalls ist es vorteilhaft, das Backsheet des Hauptteils aus einem Vliesfolienlaminat zu bilden, wobei die Vlieslage außen und die Folienlage innen zum Saugkörper gerichtet zu liegen kommt, so dass die
20 Vlieslage die Außenseite des Hauptteils bildet. Damit ist zum einen die Flüssigkeitsundurchlässigkeit des Hauptteils sicher gestellt und zum anderen der hautfreundliche Charakter der Windel gesichert.

Die Folienlage dieses Vliesfolienlaminates ist vorzugsweise aus einer ein- oder
25 mehrschichtigen flüssigkeitsundurchlässigen, vorzugsweise aber gleichwohl atmungsaktiven Folie gebildet. Damit ist der Vorteil einer Atmungsaktivität der Inkontinenzwindel auch im Bereich des Hauptteils erzielt.

Als Materialien für die Folie kommen im Prinzip alle thermoplastischen Polymere in
30 Betracht. Hierzu ist eine Vielzahl von Handelsprodukten am Markt erhältlich. Vorzugsweise werden LDPE (Low Density Polyethylen), LLDPE (Linear Low Density Polyethylen), MDPE (Medium Density Polyethylen), HDPE (High Density Polyethylen) und verschiedene PP (Polypropylen) sowie Copolymerisate von Ethylen

oder Propylen miteinander und mit anderen Comonomeren eingesetzt. Diese Polymere werden entweder in reiner Form oder als Polymergemische verwendet. Übliche Rezepturen für Hygienefolien sind z. B. Gemische aus 10 bis 90 Gew.-% LDPE, 10 bis 90 Gew.-% LLDPE und 0 bis 50% MDPE, zum Beispiel ein Gemisch
5 aus 80% LDPE, 20% LLDPE und anforderungsgerechten Pigmentierungen.

Handelsübliche Polymere für Hygienefolien besitzen die nachfolgend angegebenen Schmelzbereiche bzw. Kristallitschmelzpunkte:

LDPE = 112 bis 114 °C,

10 LLDPE = 119 bis 125 °C

MDPE = 125 bis 128 °C.

PP (Blockcopolymere) = 130 bis 163°C

Weiterhin sind Ethylenvinylacetat (EVA), Ethylenacrylat (EEA), Ethylenethylacrylat
15 (EEA), Ethylenacrylsäure (EAA), Ethylenmethylacrylat (EMA), Ethylenbutylacrylat (EBA), Polyester (PET), Polyamid (PA) z.B. Nylon, Ethylenvinylalkohole (EVOH), Polystyrol (PS), Polyurethan (PU) und thermoplastische Olefinelastomere als thermoplastische Polymermaterialien für die Folie geeignet.

20 Als Material der Folie sind Polyolefine wie z.B. LDPE, LLDPE und PP bevorzugt. Besonders bevorzugt sind Mischungen dieser Polymere, wie beispielsweise Mischungen aus LDPE und LLDPE, Mischungen aus LDPE oder LLDPE und PP oder Mischungen von PE oder PP verschiedener Schmelzpunkte.

25 Die Folie wird in an sich bekannter Weise hergestellt, z.B. durch Blasextrusion oder Cast-Verfahren. Bei diesen Verfahren während der Extrusion in die Folie eingebrachten Dehnungen sind wie weiter unten noch näher ausgeführt wird zumindest anteilig ursächlich dafür, dass die Folie bei einer späteren Temperung ein Schrumpfverhalten zeigt. Eine zusätzliche Reckung ist nicht erforderlich, kann aber
30 gewünschtenfalls in an sich bekannter Weise erfolgen. Bei atmungsaktiven Laminaten erfolgt die Bereitstellung der Atmungsaktivität vorzugsweise durch Einmischen eines feinteiligen Füllstoffes und Reckung der Folie oder des Verbundes. Bei der Reckung entstehen Mikrorisse in der Folie, welche die geforderte

Wasserdampf- und Gasdurchlässigkeit gewährleisten, ohne jedoch die Wasserdichtigkeit wesentlich zu beeinträchtigen.

Als Vliesstoffkomponenten für die Außenseite des Hauptteils und als
5 Vliesstoffkomponente für die Seitenteile im Vorderbereich und vorzugsweise auch im Rückbereich kommt eine Vielzahl von Vliesstoffarten in Frage. Geeignet sind insbesondere alle Vliesstoffe, die zumindest eine Rezepturkomponente auf Basis eines thermoplastischen Polymers enthalten. Die Vliesstoffe können Fasern aus PE, PP, PET, Rayon, Zellulose, PA und Mischungen dieser Fasern enthalten. Auch Bi-
10 oder Multikomponentenfasern sind denkbar und vorteilhaft. Vorteilhaft sind insbesondere Kardenvliese, Spinnvliese, wasserstrahlvernadelte Vliese, SM-Vliese, SMS-Vliese, SMMS-Vliese oder auch Lamine aus einer oder mehreren dieser Vliesarten, wobei S für Spunbond- und M für Meltblownvliesschichten steht. Besonders bevorzugt sind Spinnvliese, da diese eine hohe Festigkeit in Längs- und
15 Querrichtung aufweisen und somit den auf sie durch das Eingreifen der mechanischen Verschlusshilfen einwirkenden Scherkräfte besonders gut standhalten können. Um zu verhindern, dass beim Lösen der mechanischen Verschlusshilfen Fasern aus dem Vliesverbund herausgerissen werden, ist vorteilhaft, die Vliesstoffkomponente mit einem Prägemuster zu versehen, vermittels dessen
20 vorzugsweise alle Fasern der Vlieskomponente gebunden sind. Vorteilhaft ist insbesondere ein Thermoprägemuster, das insbesondere vorteilhaft durch Kalandern des Vliesstoffes unter Zuführung von thermischer Energie erzeugt wird.

Das Prägemuster kann in an sich bekannter Weise eine Vielzahl von punktförmigen
25 Fügestellen oder Fügebereichen umfassen, wobei die Fügestellen jede denkbare geometrische Form annehmen kann. Insbesondere können die Fügestellen kreisförmig, oval, quadratisch, rechteckig, rautenförmig oder sternförmig sein.

Nach einer besonders vorteilhaften Ausführungsform sind die Fügebereiche des
30 Prägemusters hingegen so angeordnet, dass die Fügebereiche nicht gebundene inselartig angeordnete Schlaufenbereiche umgeben. Die Fügebereiche können die Schlaufenbereiche kontinuierlich, gleichsam lückenlos umgeben. Denkbar und vorteilhaft ist jedoch auch, die Fügebereiche aus einer Vielzahl von insbesondere

kleineren Abschnitten linienförmiger Fügestellen zu bilden, die Fügebereiche also mit Durchbrechungen zu versehen.

Die geometrische Form der nicht gebundenen inselartig angeordneten

- 5 Schlaufenbereiche ist an sich unkritisch. Die Schlaufenbereiche können kreisförmig, oval, rechteckig, quadratisch, dreieckig, sechseckig, achteckig oder andere mehreckige Formen annehmen.

- 10 Insbesondere können die Fügebereiche durch eine Vielzahl von Linien gebildet sein, die sich zur Ausbildung eines regelmäßigen Rautenmusters schneiden, so dass inselartig angeordnete unverbundene, rautenförmige Schlaufenbereiche von linienartigen Fügebereichen umgeben sind. Die die mechanischen Verschlusshilfen aufweisenden Verschlussmittel sind mit diesen Schlaufenbereichen sicher in Eingriff bringbar, ohne dass die Gefahr besteht, Fasern aus der Vlieskomponente
- 15 herauszulösen. Ein derartiges Prägemuster ist beispielsweise in EP0882828A1 offenbart.

Ein weiteres bevorzugtes Prägemuster mit inselartig angeordneten

- Schlaufenbereichen ist in DE102004053469A1 offenbart, worauf hiermit ausdrücklich
- 20 Bezug genommen wird. Dieses Prägemuster offenbart bereits die zuvor erwähnten mit Durchbrechungen versehenen Fügebereiche.

Der Flächenanteil der Fügestellen oder Fügebereiche beträgt vorzugsweise 7-40%, insbesondere 15-30 %, weiter insbesondere 17-25%.

- 25 Das Flächengewicht der Vliesstoffkomponente für die Außenseite des Hauptteils beträgt vorzugsweise 10-30 g/m², insbesondere 14-25 g/m², weiter insbesondere 18-22 g/m².

- 30 Das Flächengewicht der Vliesstoffkomponente für die Seitenteile beträgt vorzugsweise 18-60 g/m², insbesondere 25-45 g/m², weiter insbesondere 27-40 g/m² und weiter insbesondere 28-35 g/m².

Vorzugsweise ist das Flächengewicht der Vliesstoffkomponente für die Seitenteile im Vorderbereich und vorzugsweise auch im Rückbereich größer als das Flächengewicht der Vliesstoffkomponente für die Außenseite des Hauptteils. Durch das höhere Flächengewicht der Vliesstoffkomponente für die Seitenteile ist eine
5 höhere Verschlusshaltekraft möglich, da die mechanischen Verschlusshilfen mit mehr Fasermaterial in Eingriff bringbar sind. Das höhere Flächengewicht der Vliesstoffkomponente der Seitenteile veranlasst außerdem den Benutzer, die mechanische Verschlusshilfen aufweisenden Verschlussmittel bevorzugt an den Seitenteilen und nicht an der Außenseite des Hauptteils zu fixieren, da der Benutzer
10 mit einem höheren Flächengewicht und damit vorzugsweise mit einer höheren Dicke der Vliesstoffkomponente der Seitenteile eine höhere Verschlussicherheit assoziiert. Vorzugsweise weist daher die Vliesstoffkomponente der Seitenteile eine höhere Dicke als die Vliesstoffkomponente der Außenseite des Hauptteils auf, wobei die Dicke unter einem Prüfdruck von 0,5 kPa ermittelt wird.

15 In einer besonders bevorzugten Ausführungsform weisen die Vliesstoffkomponenten der Außenseite des Hauptteils und der Seitenteile dasselbe Prägemuster auf. Dies ist der Optik des Hygieneartikels und dem subjektiven Komfortempfinden des Anwenders zuträglich.

20 Die Vliesstoffkomponente der Außenseite der Seitenteile im Vorderbereich und vorzugsweise auch im Rückbereich ist vorzugsweise aus einem für wässrige Flüssigkeiten durchlässigen Material gebildet. Dies fördert die Abführung von Schweiß von innen nach außen.

25 In einer besonders bevorzugten Ausführungsform bestehen die Seitenteile im Vorderbereich und vorzugsweise auch im Rückbereich im Wesentlichen aus einer Vliesstoffkomponente, so dass sowohl die Außenseite als auch die Innenseite der Seitenteile im Wesentlichen durch die Vliesstoffkomponente gebildet werden.

30 Die Außenseite eines das Backsheet einer erfindungsgemäßen Inkontinenzwindel bildenden Vliesfolienlaminates soll mit den die mechanischen Verschlusshilfen aufweisenden Verschlussmitteln eine Über-Bauch-Haltekraft gewährleisten, die einen

sicheren Halt der Windel am Körper sicher stellt. Hierzu ist vorteilhaft, neben der geeigneten Auswahl der Vliesstoff- und der Folienkomponente, ein geeignetes Laminierverfahren zur Herstellung des Verbundes aus Vlies und Folie anzuwenden.

- 5 Das Laminieren der Vliesstoffkomponente des Backsheets mit der Folienkomponente des Backsheets kann in an sich bekannter Weise durch beliebige Fügeverfahren insbesondere durch Verkleben, Verprägen, Ultraschallschweißen oder thermisches Kalandrieren erfolgen. Ein bevorzugtes Thermolaminierverfahren ist in DE102004042405A1 offenbart. Auf die DE102004042405A1 wird in Bezug auf das
10 Thermolaminierverfahren ausdrücklich Bezug genommen und dieses Verfahren insoweit auch zur Offenbarung dieser nun vorgelegten Beschreibung gehörig erklärt.

- Es ist auch möglich, das Laminat durch Direktextrusion der Folie auf das Vlies herzustellen. Solche Verbunde werden vorzugsweise einem Reckschritt in zumindest
15 einer Richtung unterworfen, um den erreichbaren Schrumpf bei der – unten näher beschriebenen - Heißtemperung zu vergrößern. Lamine, bei welchen die Folie durch Direktextrusion mit der Vlieslage verbunden wurde, werden daher geprägt, gereckt, insbesondere durch an sich bekanntes Ring-Rolling, oder vorzugsweise geprägt und gereckt.

- 20 Da eine Vielzahl der Laminierverfahren zur Herstellung des Vliesfolienlaminates eine Beeinträchtigung der Bauschigkeit der Vliesstoffkomponente und damit eine deutliche Reduzierung der Über-Bauch-Haltekräfte nach sich ziehen, hat es sich als vorteilhaft erwiesen, das Vliesfolienlaminat nach der Laminierung einer Temperung
25 zuzuführen. Diese Temperung hat zur Folge, dass die Folie schrumpft, insbesondere um 1-10 %, weiter insbesondere um 2-5 %, insbesondere in der Richtung in der sie vormals im Zuge ihrer Herstellung oder während der Laminierung gestreckt wurde, das heißt in Quer- und/oder in Längsrichtung. Die Schrumpfung der Folie zwingt die mit ihr verbundene Vliesstoffkomponente zur einer Art Raffung, mit der auch eine
30 Flächengewichtszunahme einhergeht, so dass die Vliesstoffkomponente nachfolgend besser mit den mechanische Verschlusshilfen aufweisenden Verschlussmitteln in Eingriff bringbar ist und höhere Über-Bauch-Haltekräfte ausweist als vor der Temperung. Vorzugsweise erfolgt die Temperung als Heißtemperung oberhalb der

Schmelztemperatur der Folien. Vorzugsweise weist die Folie solchenfalls zumindest einen Bestandteil auf, der einen geringeren Schmelzpunkt besitzt als zumindest eine Faserkomponente der Vliesstoffkomponente, so dass die Faserstruktur durch das Heißtempern nicht zerstört wird.

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Unter Schmelzpunkt wird im Rahmen der vorliegenden Anmeldung im Hinblick auf die polymeren Materialien diejenige Temperatur verstanden, bei welcher der Schubmodul des Materials gegen null geht. Soweit es sich um Polymere mit kristallinen Anteilen oder um kristalline Polymere handelt, sind bei dieser Temperatur (auch) die kristallinen Bereiche geschmolzen.

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In Bezug auf eine Folie ist der Schmelzpunkt diejenige Temperatur, bei der die Folie insgesamt aufschmilzt. Sofern die Folie nicht nur aus einem Material besteht, kommt es nicht darauf an, dass sämtliche Komponenten für sich eine Schmelztemperatur bei oder unterhalb des Schmelzpunktes aufweisen, vielmehr entspricht der Schmelzpunkt der Folie regelmäßig der Schmelztemperatur der thermoplastischen Hauptkomponente. So weist eine atmungsaktive Folie enthaltend 60 % Calciumcarbonat, 32 % eines Polymers mit einer Kristallitschmelztemperatur von 138 °C und 8 % eines Polymers mit einer Kristallitschmelztemperatur von 158 °C einen Schmelzpunkt von etwa 138 °C auf.

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Bei atmungsaktiven Folien wird die Atmungsaktivität z.B. überwiegend durch Zusatz eines feinteiligen Füllstoffs wie Calciumcarbonat erreicht, dessen sehr hohe Schmelztemperatur aber bei Zusätzen selbst von über 50 Gew.-% den Schmelzpunkt der Folie nicht wesentlich beeinflusst. So weist eine Folie aus einem Gemisch von 60 % Calciumcarbonat mit 40 % Polymer denselben Kristallitschmelzpunkt wie das Polymer auf.

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Bei Vliesen brauchen im Falle von mehreren Materialkomponenten nicht alle Materialkomponenten einen Schmelzpunkt oberhalb der Temperatur des Heißtemperns zu haben, es reicht, wenn zumindest eine Komponente einen höheren Schmelzpunkt hat, so dass die Integrität des Vlieses gewahrt bleibt. Es kann sogar vorteilhaft sein, wenn eine Materialkomponente des Vlieses eine geringere

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Schmelztemperatur aufweist, da hierdurch die Verbundhaftung der Lamine verbessert werden kann.

Die bevorzugte Heißtemperung des Vliesfolienlaminates kann entweder direkt im Anschluss an seine Herstellung (in-line) oder unabhängig davon zu einem späteren Zeitpunkt (off-line) erfolgen. Die Heißtemperung erfolgt auf an sich für die Temperung bekannte Weise, jedoch ist die Temperatur zumindest oberhalb der Schmelztemperatur der thermoplastischen Hauptkomponente der Folie des Vliesfolienlaminates einzustellen.

Das Prozessfenster der Erwärmung ist bei der minimalen Temperatur durch den im Falle der Heißtemperung zwingend erforderlichen schmelzefflüssigen Zustand der Folie gegeben. Nach oben wird die Erwärmung durch den Kristallitschmelzpunkt der Vliesbahn begrenzt, sowie bei atmungsaktiven Folien gegebenenfalls zusätzlich durch einen bei zu hohen Temperaturen auftretenden Verlust der Atmungsaktivität der Folie. Wird in den Kristallitschmelzpunkt der Vliesbahn hinein erwärmt, geht die gute Weichheit des Laminates verloren und es entsteht die Gefahr der Bildung von Löchern (pin-holes) in dem Verbund. Bei atmungsaktiven Folien sollte die Heißtemperung bei solchen Temperaturen erfolgen, dass die Schmelze noch zu zähflüssig ist, um die Poren zu verschließen. Alternativ kann aber die Atmungsaktivität auch erst nach dem Heißtempern erzeugt werden, indem der Verbund nach diesem Schritt z.B. noch einem Ring-Rolling unterworfen wird.

Die Heißtemperung erfolgt vorzugsweise, indem das Vliesfolienlaminat mittels einer oder mehrerer Heizwalzen oder alternativ z.B. mittels IR-Strahlung soweit erwärmt wird, dass die Folie, d.h. zumindest die niedrighschmelzende Rohstoffkomponente der Folie, den schmelzefflüssigen Zustand erreicht. Nach erfolgter Erwärmung läuft der Verbund direkt auf langsamer laufende Kühlwalzen, so dass eine schockartige Kühlung auftritt und durch die 1 – 10 % geringere Umfangsgeschwindigkeit ein Schrumpf zwischen Heizelement und Kühlung möglich ist. Der Schrumpf sollte im Bereich von 1 – 10 % (Länge/Länge) in Maschinenrichtung liegen, quer dazu erfolgt je nach Herstellung und Vorbehandlung der Folie ebenfalls ein Schrumpfen. Bei Blasfolien liegt der Querschrumpf typischerweise ebenfalls bei 1 bis 10 %, bei Cast-

Folien ist er typischerweise geringer. Die Temperatur der Kühlwalzen beträgt vorzugsweise 10 – 30°C, so dass die Kühlung des Verbundes auf unterhalb der Schmelztemperatur der Folie sehr schnell, z.B. innerhalb von Bruchteilen einer Sekunde erfolgt.

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Es hat sich des Weiteren als vorteilhaft erwiesen, wenn die Atmungsaktivität der Seitenteile im Vorderbereich und vorzugsweise auch im Rückbereich größer ist als die Atmungsaktivität des Backsheets.

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In vorteilhafter Weiterbildung der Erfindung sind die Seitenteile im Vorder- und/oder Rückbereich wenigstens um eine in Längsrichtung verlaufende Falzlinie auf sich selbst gefaltet. Insbesondere sind hierbei aufeinander gefaltete und flächenhaft aneinander liegende Teilabschnitte der Seitenteile in dieser gefalteten Konfiguration an Fügstellen oder Fügebereichen lösbar aneinander fixiert. Diese lösbare Fixierung ist vorzugsweise durch thermisch oder durch Ultraschall erzeugte, vorzugsweise punktförmige Fügstellen ausgebildet. Dies hat den Vorteil, dass die Seitenteile in der schnell laufenden Herstellungsmaschine sicher geführt werden können und auch beim Entnehmen aus einer Umverpackung und beim Vorbereiten zum Anlegen der Inkontinenzwindel Vorteile resultieren. Hierdurch wird die Inkontinenzwindel bedienungsfreundlich und erweist sich insbesondere bei der Anwendung bei starken pflegebedürftigen Personen besonders vorteilhaft.

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In Weiterbildung dieses Erfindungsgedankens erweist es sich als vorteilhaft, wenn in einem in Querrichtung das freie Ende des Seitenteils bildenden Teilabschnitt eines jeweiligen so gefalteten Seitenteils ein Anfassbereich zum Entfalten des Materialabschnitts vorgesehen ist. Dieser Anfassbereich kann im einfachsten Fall von einem Längsseitenrandabschnitt des erwähnten Teilabschnitts gebildet sein, der mit den Fingern eines Benutzers ergreifbar ist. Es wäre auch denkbar, dass an dem betreffenden Teilabschnitt ein separates manuell ergreifbares Anfasselement vorgesehen ist, was jedoch einen zusätzlichen herstellungstechnischen Aufwand bedeuten würde.

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Es erweist sich als besonders vorteilhaft, wenn die lösbare Fixierung an sämtlichen Fügstellen oder Fügebereichen beim Entfalten durch einmaliges Ziehen an dem Anfassbereich der jeweiligen Seitenteile auftrennbar ist. Hierdurch wird die Handhabung weiter vereinfacht und die Inkontinenzwindel wird hierdurch noch
5 bedienungsfreundlicher. In Bezug auf die Bedeutung und die Prüfung des Merkmals des Entfaltens durch einmaliges Ziehen wird ausdrücklich auf die DE102004021353A1 und die dort offenbarte Prüfmethode Bezug genommen.

10 In Weiterbildung dieses Erfindungsgedankens sind die Seitenteile im Vorderbereich und vorzugsweise auch im Rückbereich um wenigstens zwei Falzlinien auf sich selbst gefaltet, so dass eine im Schnitt z-förmige Konfiguration entsteht. Nach einer weiteren bevorzugten Ausführungsform sind die Seitenteile um drei Falzlinien auf sich selbst gefaltet.

15 Nach einer weiteren bevorzugten Ausführungsform der erfindungsgemäßen Inkontinenzwindel sind die jeweiligen Anfassbereiche vor der Entfaltung der Seitenteile im Vorderbereich und vorzugsweise auch im Rückbereich in Querrichtung nach außen gewandt, also voneinander und von einer Längsmittelachse des auf einer ebenen Unterlage ausgebreiteten Windelhauptteils voneinander weg gewandt,
20 so dass sie auf bequeme Weise mit der linken Hand eines Benutzers von links und mit der rechten Hand von rechts ergreifbar sind.

Die Erstreckung eines an den Hauptteil angefügten Seitenteils im entfalteten Zustand in Querrichtung über den Seitenrand des Hauptteils hinaus, beträgt vorzugsweise
25 wenigstens 10 cm, insbesondere wenigstens 15 cm, und weiter insbesondere wenigstens 18 cm. Sie beträgt vorzugsweise höchstens 35 cm, insbesondere höchstens 30 cm und weiter insbesondere höchstens 27 cm. Die an den Hauptteil angefügten Seitenteile haben im Bereich der Anfügung an den Hauptteil eine Erstreckung in Längsrichtung der Inkontinenzwindel von vorzugsweise wenigstens
30 10 cm, insbesondere wenigstens 14 cm, insbesondere wenigstens 18 cm und weiter insbesondere wenigstens 22 cm.

In Weiterbildung der Erfindung weisen die Seitenteile zumindest im Rückbereich ein Verstärkungsmittel auf, welches in Querrichtung betrachtet schmaler ausgebildet ist als ein jeweiliges Seitenteil und welches wenigstens in einem den Seitenrand des Hauptteils überbrückenden Bereich vorgesehen ist, also sowohl einen

5 Seitenrandbereich des Hauptteils als auch einen Teil des Seitenteils in Querrichtung überfängt. Auf diese Weise wurde die Einreißfestigkeit der Seitenteile in beträchtlichem Maße erhöht.

Es erweist sich als besonders vorteilhaft, wenn das Verstärkungsmittel im

10 Wesentlichen wenigstens nahezu bis zu einem dem Schrittbereich zugewandten Querrand des Seitenteils erstreckt ist, wenn es also vorzugsweise kantenbündig mit dem Querrand des Seitenteils abschließt oder gar den Querrand einschließt oder umschließt.

15 Das Verstärkungsmittel könnte in der Längsrichtung des Hygieneartikels, beispielsweise über die gesamte Längsausdehnung des angefügten Seitenteils erstreckt sein. Es hat sich indessen gezeigt, dass dies nicht zwingend erforderlich ist, sondern dass es sich als ebenfalls vorteilhaft erweist, wenn das Verstärkungsmittel in Längsrichtung des Hygieneartikels eine geringere Abmessung aufweist als das

20 angefügte Seitenteil selbst. Infolge der beim Gebrauch auftretenden Krafteinwirkung auf das Seitenteils und auf den Anfügbereich von Seitenteil und Windelhauptteil ist es durchaus hinreichend, wenn das Verstärkungsmittel sich beispielsweise nur bis 80 % oder insbesondere bis 60 % und weiter insbesondere bis 50 % der Längserstreckung des Seitenteils erstreckt. Hierdurch kann gegenüber der in

25 Längsrichtung durchgehenden Verstärkung eine Materialersparnis erzielt werden.

Das Verstärkungsmittel erstreckt sich stets in Querrichtung über den Seitenrand des Hauptteils hinaus in Richtung des freien Endes des Seitenteils. Diese Erstreckung des in Richtung des freien Endes des Seitenteils über den Seitenrand des Hauptteils

30 hinausgehenden Bereichs des Verstärkungsmittels, gemessen von Seitenrand des Hauptteils, beträgt vorzugsweise höchstens 50%, insbesondere höchstens 35%, weiter insbesondere höchstens 25%, weiter insbesondere höchstens 20%, weiter

insbesondere höchstens 15%, weiter insbesondere höchstens 10% der Quererstreckung des Seitenteils.

Vorzugsweise erstreckt sich das Verstärkungsmittel außerdem in Querrichtung in
5 Richtung der Längsmittellinie des Hauptteils, so dass es den Überlappungsbereich von Seitenteil und den Materialien des Hauptteils zumindest teilweise überfängt. Vorzugsweise überfängt das Verstärkungsmittel den Überlappungsbereich vollständig.

10 Als ganz besonders vorteilhaft erweist es sich, dass ein jeweiliges angefügtes Seitenteil rechteckförmig ausgebildet werden kann, ohne dass die erwähnte Einreißproblematik dem entgegenstehen würde.

Das erfindungsgemäß vorgesehene Verstärkungsmittel kann nach einer ersten
15 Ausführungsform der Erfindung in vorteilhafter Weise von einem angefügten Verstärkungsabschnitt gebildet sein, also von einem zusätzlichen dem jeweiligen Seitenteil zugefügten, insbesondere auf den jeweiligen Seitenteil aufgebracht Material. Dieser Verstärkungsabschnitt kann beispielsweise streifenförmig ausgebildet sein. Dieser Verstärkungsabschnitt kann weiterhin jegliche Form
20 annehmen. Dieser Verstärkungsabschnitt kann beispielsweise auch in Form eines Dreiecks ausgebildet sein.

Es kann sich hierbei um einen Abschnitt eines streifen- oder bandförmigen Materials handeln. Insbesondere und vorteilhafterweise kann der Verstärkungsabschnitt von
25 einem Vliesmaterial, einem textilen Material oder einer Folie gebildet sein. Er kann ebenso wie die Seitenteile in einem endlosen Fertigungsprozess im Cut & Place-Verfahren zugeführt und angefügt werden.

Im Falle der Ausbildung des Verstärkungsabschnitts in Form eines Vliesstoffes und
30 der Anordnung des Verstärkungsabschnittes auf der Außenseite der Seitenteile ist die Außenseite des Vliesstoffes vorzugsweise mit den mechanische Verschlusshilfen aufweisenden Verschlussmitteln, etwa zum Zwecke der Entsorgung der gebrauchten Windel, in Eingriff bringbar.

Vorzugsweise weist der Verstärkungsabschnitt dasselbe Prägemuster auf wie die Vliesstoffkomponente des Seitenteils und/oder der Außenseite des Hauptteils.

- 5 Es können auch mehrere Verstärkungsabschnitte vorgesehen sein.
Die Verstärkungsmittel können an eine oder beide Oberseiten des Seitenteils angefügt sein.

Nach einer besonders vorteilhaften Ausführungsform der Erfindung ist das
10 Verstärkungsmittel von dem Material des jeweiligen Seitenteils selbst gebildet, indem das Seitenteil in dem den Seitenrand des Hauptteils überbrückenden Bereich einmal oder mehrmals gefaltet ist. In der Draufsicht auf den eben ausgefalteten Hygieneartikel ist nach dieser Ausführungsform also ein den Seitenrand des Hauptteils überfangender oder überlappender Bereich des jeweiligen Seitenteils
15 durch eine Materialverdoppelung oder -vervielfachung durch Falten des Seitenteils gebildet. Hierdurch kann ein besonders effektiver Einreißschutz geschaffen werden. Als besonders vorteilhaft erweist sich eine in der Längsrichtung des Hygieneartikels betrachtete Z-förmige Faltung des jeweiligen Seitenteils.

20 Weitere Merkmale, Einzelheiten und Vorteile der Erfindung ergeben sich aus den beigefügten Patentansprüchen und aus der zeichnerischen Darstellung und nachfolgender Beschreibung. Bevorzugte Ausführungsformen der erfindungsgemäßen Windel in der Zeichnung zeigen:

25 Figur 1 eine Draufsicht auf die Außenseite einer erfindungsgemäßen Inkontinenzwindel

Figur 2 eine Querschnittsansicht entlang einer Linie A-A der in Figur 1 dargestellten Inkontinenzwindel

30

Figur 3 ein Prägemuster für eine Vliesstoffkomponente

Figur 4 ein weiteres Prägemuster für eine Vliesstoffkomponente

Figur 5 eine schematische Darstellung der Anfügung eines Seitenteils an einen Hauptteil mit Verstärkungsmittel

5 Figuren 6 und 7 Darstellung eines Kletthakens einer mechanischen Verschlusshilfe

Figur 8 eine schematische Darstellung des Aufbaus eines Zugprüfversuches mit einer Vorrichtung mit gekrümmter Fläche

10 Figuren 9a-9d schematische Darstellungen des Prüflings

Figur 10 eine perspektivische Ansicht der in Figur 8 dargestellten Vorrichtung

15 Figuren 11a, 11b Draufsichten auf das User-Ende von Verschlussstreifen einer Inkontinenzwindel

Figur 1 zeigt schematisch eine Draufsicht auf die Außenseite einer absorbierenden Inkontinenzwindel 2 in eben ausgefaltetem Zustand. Die Inkontinenzwindel umfasst einen Hauptteil 4 mit einer Längsmittellinie L bestehend aus einem Vorderbereich 6, einem Rückbereich 8 und einem in Längsrichtung L dazwischen liegenden
20 Schrittbereich 12. Außerdem angedeutet ist ein Saugkörper 14, der üblicherweise zwischen chassisbildenden Materialien des Hauptteils, also insbesondere zwischen einem flüssigkeitsdurchlässigen Topsheet 11 und einem im Wesentlichen flüssigkeitsundurchlässigen Backsheet 10 des Hauptteils 4 angeordnet ist. Es sind
25 aber auch Ausführungsformen denkbar, bei denen der Saugkörper als separate mit Auslaufschutz versehene Einheit auf eine chassisbildende Lage des Hauptteils aufbringbar und dort lösbar oder unlösbar fixierbar ist.

Die Inkontinenzwindel 2 umfasst des Weiteren vordere Seitenteile 16 und hintere
30 Seitenteile 17, die als separate Vliesstoffkomponenten beidseits an den Hauptteil 4 angefügt sind. Sie haben jeweils rechteckförmige Gestalt, was nicht zwingend, jedoch im Hinblick auf die Vermeidung von Schnittabfall vorteilhaft ist. Die Seitenteile sind in einem schraffiert dargestellten Überlappungsbereich 18 mit chassisbildenden

Materialien des Hauptteils 4, also beispielsweise mit dem Backsheet 10 und/oder dem Topsheet 11 zum bestimmungsgemäßen Gebrauch unlösbar verbunden. Sie erstrecken sich über seitliche Längsränder 5 des Hauptteils 4 in Querrichtung Q des Hauptteils 4 hinaus. Die Seitenteile 16, 17 sind dafür gedacht und bestimmt, im

5 angelegten Zustand der Inkontinenzwindel miteinander verbunden zu werden, um einen in Umfangsrichtung durchgehenden Hüftbereich des Hygieneartikels zu bilden. Dabei werden jeweils die auf einer Seite des Hauptteils vorgesehenen Seitenteile 16, 17 miteinander verbunden. Hierzu sind die mechanische Verschlusshilfen 31, insbesondere Kletthaken, aufweisenden Verschlussmittel 32 der Verschlussstreifen

10 30 auf der Außenseite der vorderen Seitenteile 16 festlegbar. Figur 11a zeigt in der Draufsicht in vergrößerter Darstellung das User-Ende einer der Verschlussstreifen 30 mit einem Verschlussmittel 32, das allein durch den Abschnitt mechanischer Verschlusshilfen 31 in Form von Kletthaken gebildet ist. Die Breite B des Abschnittes mechanischer Verschlusshilfen 31 beträgt vorliegend 25mm und dessen Länge A

15 beträgt vorliegend 20mm. Figur 11b zeigt eine alternative Ausführungsform des User-Endes eines Verschlussstreifens 30 mit einem Verschlussmittel 32, das aus einem Abschnitt mechanischer Verschlusshilfen 31 und einem Abschnitt klebender Verschlusshilfen in Form eines haftklebenden Bereiches 33 gebildet ist, wobei die Breite B des Verschlussmittels 32 25mm beträgt und die Länge A des

20 Verschlussmittels 32 30mm beträgt.

Zumindest die vorderen Seitenteile 16, vorzugsweise auch die hinteren Seitenteile 17 sind aus einer Vliesstoffkomponente, im dargestellten Falle aus einem PP-Spinnvlies von 30 g/m² gebildet. Die Faserstärke beträgt 2 dtex. Die Außenseite des

25 Spinnvliesstoffes weist ein in Figur 1 nur schematisch angedeutetes Prägemuster 20 auf. Die durch Heißkalanderprägung erzeugten Fügebereiche sind durch eine Vielzahl von Linien gebildet, nämlich durch zwei Gruppen von Innerhalb einer Gruppe jeweils parallel verlaufenden Linien, wobei sich die Linien der einen mit der der anderen Gruppe zur Ausbildung eines regelmäßigen Rautenmusters unter einem

30 Winkel von 33° schneiden, so dass inselartig angeordnete unverbundene, rautenförmige Schlaufenbereiche 21 von linienartigen Fügebereichen 22 umgeben sind. Die Fügebereiche 22 bildenden Linien haben im dargestellten Fall eine Breite von 1,0 mm und eine Prägetiefe von 0,6 mm. Der Abstand zweier benachbarter

parallel verlaufender Linien beider Gruppen von Linien beträgt 4,7 mm. Die Prägefläche, also die Summe der Fläche aller Fügebereiche 22 bezogen auf die Gesamtfläche des Prägemusters (Fügebereiche + Schlaufenbereiche) beträgt 32 %.

- 5 Die auf der Innenseite der Verschlussstreifen 30 der hinteren Seitenteile 17 angeordneten Verschlussmittel 32 sind mit diesen Schlaufenbereichen 21 sicher in Eingriff bringbar, ohne dass die Gefahr besteht, Fasern im Übermaß aus der Vliesstoffkomponente herauszulösen.
- 10 Die Außenseite des Backsheets 10 des Hauptteils 4 ist durch eine Backsheetvliesstoffkomponente 10a gebildet. In der nicht maßstabsgerechten Figur 2 ist erkennbar, dass das Backsheet aus einem Vliesfolienlaminat gebildet ist, das heißt zwischen dem Saugkörper 14 und der Backsheetvliesstoffkomponente 10a ist eine Backsheetfolienkomponente 10b angeordnet. Schematisch sind in Figur 2
- 15 außerdem die Fügebereiche 42 und die Schlaufenbereiche 41 des Prägemusters 40 dargestellt. Auch die Backsheetvliesstoffkomponente 10a ist im dargestellten Falle aus einem PP-Spinnvlies, allerdings von 20 g/m² gebildet. Die Faserstärke beträgt 2 dtex. Die Außenseite dieses Spinnvliesstoffes weist ein - in Figur 1 nur bereichsweise schematisch angedeutetes - Prägemuster 40 auf. Tatsächlich
- 20 erstreckt sich das Prägemuster 40 über die gesamte Außenseite des Hauptteils 4 vom Vorder- 6 über den Schritt- 12 bis zum Rückbereich 8 der Inkontinenzwindel 2. Die durch Heißkalanderprägung erzeugten Fügebereiche sind durch eine Vielzahl von Linien gebildet, die sich zur Ausbildung eines regelmäßigen Rautenmusters schneiden, so dass inselartig angeordnete unverbundene, rautenförmige
- 25 Schlaufenbereiche 41 von linienartigen Fügebereichen 42 umgeben sind. Im dargestellten Fall ist das Prägemuster 40 der Backsheetvliesstoffkomponente 10a dem des Prägemusters 20 der Vliesstoffkomponente der vorderen Seitenteile 16 identisch.
- 30 Die Über-Bauch-Haltekräfte zwischen den Verschlussmitteln 32 und der Außenseite der Seitenteile 16 betragen vorzugsweise mindestens 58 N/25mm und sind höher und als die Über-Bauch-Haltekräfte zwischen den Verschlussmitteln 32 und der Außenseite der Backsheetvliesstoffkomponente, die vorzugsweise gleichwohl

mindestens 20 N/25mm betragen. Im Wesentlichen wird dies durch das höhere Flächengewicht der Vliesstoffkomponente der Seitenteile sichergestellt.

Figur 3 zeigt schematisch ein alternatives durch Heißkalanderung erzeugtes
5 Prägemuster 50 für die Vliesstoffkomponenten der vorderen Seitenteile 16 und/oder
des Backsheets 10. Das Prägemuster 50 weist Fügebereiche auf, die durch eine
Vielzahl von Linien gebildet sind und die sich zur Ausbildung eines regelmäßigen
Musters schneiden, so dass inselartig angeordnete unverbundene, dreieckförmige
Schlaufenbereiche 51 von linienartigen Fügebereichen 52 umgeben sind. Die
10 Prägefläche, also die Summe der Fläche aller Fügebereiche 52 bezogen auf die
Gesamtfläche des durch das Prägemuster 50 erfassten Bereiches des Vliesstoffes
beträgt in diesem Fall 23 %.

Figur 4 zeigt schematisch und nicht maßstabsgerecht eine Abwandlung des in Figur
15 3 dargestellten Prägemusters 50. In diesem Fall ist das Prägemuster ein offenes
Prägemusters 60. Die Fügebereiche 62 umgeben die dreieckförmigen
Schlaufenbereiche 61 nicht kontinuierlich also nicht lückenlos, sondern die
Fügebereiche 62 sind aus einer Vielzahl von insbesondere kleineren Abschnitten
linienförmiger Fügestellen 63 gebildet, die keine Schnittpunkte miteinander
20 aufweisen; die Fügebereiche 62 sind also mit Durchbrechungen 64 versehen. Dies
führt zu insgesamt besseren taktilen Eigenschaften, insbesondere zu höherer
Weichheit einer mit diesem Prägemuster 60 versehenen Vliesstoffkomponente. Die
linienförmigen Fügestellen 63 bilden jeweils die sich nicht treffenden Schenkel eines
Dreiecks. In einer bevorzugten Ausführungsform des offenen Prägemuster 60 weisen
25 die linienförmigen Fügestellen 63 eine Länge von 3-7 mm, insbesondere 4-5 mm auf.
Vorzugsweise weisen die Fügestellen 63 eine einheitliche Länge auf, so dass sie
eine Vielzahl von gleichseitigen Dreiecken bilden. Die Breite der Fügestellen 63
beträgt vorzugsweise 0,2-0,8 mm, insbesondere 0,4-0,6 mm. Die Prägetiefe beträgt
vorzugsweise 0,2-1,0 mm, insbesondere 0,4-0,8 mm. Die Prägefläche, also die
30 Summe der Fläche aller Fügebereiche 62 bezogen auf die Gesamtfläche des durch
das Prägemuster 60 erfassten Bereiches beträgt vorzugsweise 15-50%,
insbesondere 17-40 %, weiter insbesondere 19-25%. Im in Figur 4 dargestellten Fall
beträgt die Prägefläche etwa 21 %.

Figur 5 zeigt ausschnittsweise den Rückbereich einer erfindungsgemäßen Ausbildung der Inkontinenzwindel 2, wobei das schematisch dargestellte hintere Seitenteil 17 ein Verstärkungsmittel 7 aufweist, welches in Querrichtung Q schmaler ist als das Seitenteil 17. Das Verstärkungsmittel 7 erstreckt sich jedoch in Querrichtung Q über den Seitenrand 5 des Hauptteils 4 hinaus. Das Verstärkungsmittel 7 überfängt dabei den Überlappungsbereich 18 teilweise, wie schematisch in Figur 5 dargestellt ist. Es erstreckt sich also sowohl über den seitlichen Seitenrand 5 in Richtung freies Ende 27 des Seitenteils 17 als auch in Richtung Überlappungsbereich 18, also in Richtung einer Längsmittellinie L des Hauptteils 4.

Das Verstärkungsmittel 7 kann auf verschiedene Weise ausgebildet sein, solange es einen Einreißschutz des Seitenabschnitts 17 bewirkt, insbesondere bei Einleitung einer zur Querrichtung Q schräg gerichteten Zugkraft auf das Seitenteil 17 bzw. den Überlappungsbereich 18 beim Schließen der Windel mittels der in Figur 5 nicht dargestellten Verschlussstreifen 30. Das Verstärkungsmittel 7 kann beispielsweise von einem zusätzlichen Verstärkungsabschnitt, beispielsweise aus Vlies oder Folie oder aus einem an sich beliebigen verstärkenden Material gebildet sein. Dieses kann durch an sich beliebige Fügeverfahren, insbesondere unter Verwendung eines Klebers, auf das Material des Seitenabschnitts 17 aufgebracht sein.

In einer weiteren nicht dargestellten Ausführungsform ist das Verstärkungsmittel 7 von dem Material des Seitenteils 17 selbst gebildet ist, indem das Seitenteil 17 auf sich selbst, insbesondere z-förmig gefaltet ist, wobei sich die gefaltete Konfiguration in Querrichtung Q über den Seitenrand 5 des Hauptteils 4 in Richtung freies Ende des Seitenteils 17 hinaus erstreckt.

Eine besonders bevorzugte Inkontinenzwindel 2 weist folgende, bezüglich der Über-Bauch-Haltekräfte relevante Komponenten auf:

als vordere Seitenteile 16:

Material X: bestehend aus 30 g/m² Polypropylenpinnvlies, Faserstärke 2 dtex

Heißkalanderprägemuster auf der Außenseite des Seitenteilmaterials nach Figur 4, wobei die Fügestellen 63 eine gleichförmige Länge von 4,5 mm aufweisen bei einer Breite der Fügestellen von 0,4 mm und bei einer Prägetiefe von 0,65 mm und bei einer Prägefläche von 21,13%. Das Material ist erhältlich bei Fa. Corovin GmbH,
5 Wohltorfer Str. 124, D-31201 Peine.

als Backsheet 10:

Material Y: Eingesetzt wurde ein Vliesfolienlaminat, welches vorzugsweise die komplette Außenseite des Hauptteils 4 der Inkontinenzwindel 2 bildet. Die
10 Vliesstoffkomponente besteht aus einem 20 g/m² Polypropylenspinnavlies, Faserstärke 2 dtex mit einem Heißkalanderprägemuster wie das der vorderen Seitenteile 16, also einem Heißkalanderprägemuster nach Figur 4, wobei die Fügestellen 63 eine gleichförmige Länge von 4,5 mm aufweisen bei einer Breite der Fügestellen von 0,4 mm und bei einer Prägetiefe von 0,65 mm und bei einer
15 Prägefläche von 21,13%, zu beziehen bei der Fa. Corovin GmbH, Wohltorfer Str. 124, D-31201 Peine. Die Folienkomponente ist eine blasextrudierte Folie erhältlich bei der Fa. Rheinische Kunststoffwerke GmbH, Alkorstrasse 6, D-83512 Wasserburg. Die Rezeptur der Folie besteht aus 70 % niedragschmelzendem Polypropylen-Compound (Schmelzpunkt ca. 137 – 143 °C) und 30 %
20 hochschmelzendem Polypropylen-Compound (Schmelzpunkt 158 – 164 °C). Die Compounds bestehen jeweils aus einer Abmischung Polymer-Rohstoff plus 60 % CaCO₃ (Kreide). Nach der Blasextrusion der sogenannten Precursorfolie mit einem Flächengewicht von 40 g/m² wurde die Folie über eine monoaxiale MDO-Reckanlage in Maschinenrichtung gereckt. Dabei wurde die Folienbahn mit einem
25 Reckgrad von 1:2 in Maschinenrichtung, also auf ein Flächengewicht von 20 g/m², gereckt und damit die Atmungsaktivität erzeugt. Die atmungsaktive Folie wurde anschließend gemeinsam mit dem Polypropylenspinnavlies (20 g/m²) in einer Vorrichtung, wie sie in Figur 1 der DE102004042405A1 offenbart und beschrieben ist bei 130 bis 140 °C thermolaminert. Nachfolgend wurde das
30 erzeugte Vliesfolienlaminat einem Ringrolling in CD (quer zur Maschinenrichtung) unterzogen. Dieses Laminat wurde anschließend der Heißtemperung zugeführt. Das Laminat lief hierbei über zwei hintereinander angeordnete Heizwalzen, wobei es auf eine Temperatur oberhalb der Schmelztemperatur der Folie, aber

unterhalb der Schmelztemperatur des Polypropylenstapfvlieses erwärmt wurde, nämlich auf 130-140 °C. Nach der zweiten Heißwalze wurde das Laminat unmittelbar über zwei nacheinander angeordnete Kühlwalzen geführt. Diese hatten eine um so viel geringere Umlaufgeschwindigkeit als die Heizwalzen, wie
5 der gewünschte Schrumpf in Maschinenrichtung beträgt, vorliegend ca. um 5%.

als mechanische Verschlusshilfen 31 aufweisende Verschlussmittel 32

Material Z: Klettakenabschnitt mit den Abmessungen 20 x 25 mm. Typ
10 Microplast® 42-288-HX200-PP3, Artikel-Nummer 25445, erhältlich bei der Fa. G. Binder GmbH & Co KG Textil- und Kunststofftechnik, Holzgerlingen, Bundesrepublik Deutschland. Die Darstellung der Form dieser Klettaken ist in Figuren 6 und 7 einzusehen. Die Aken haben eine pilzförmige Gestalt (Figur 6) mit hexagonaler Fläche des Kopfes 8 (Figur 7). Die Akenichte (Anzahl Aken pro Fläche) beträgt 288 Aken pro cm². Das Material besteht aus Polypropylen
15 und weist eine Dicke von 0,42 mm auf. Es ist durch Extrusion hergestellt. Die Höhe der pilzförmigen Erhebungen gegenüber dem Grund des Materials beträgt 0,26 mm. Der Abstand der Kanten der Akenköpfe beträgt 200 µm.

20 Die Über-Bauch-Haftkräfte dieser Materialien ermittelt als Scherkräfte nach oben beschriebener Prüfmethode sind wie folgt:

Außenseite (Prägemusterseite) des Materials X mit Material Z: 65,3 N/25mm

Außenseite (Vliesstoffseite) des Materials Y mit Material Z: 48,6 N/25mm

25

Die Über-Bauch-Haltekräfte der Verschlussmittel mit der Außenseite des Seitenteilmaterials sind also höher als die Über-Bauch-Haltekräfte der Verschlussmittel mit der Außenseite des Backsheet bildenden Vliesfolienlaminates.

30

Patentansprüche

1. Absorbierende Inkontinenzwindel (2) mit einem Rückbereich (8), einem Vorderbereich (6) und einem dazwischen liegenden Schrittbereich (12) und mit erstem und zweitem Seitenrand (5) und mit einem Hauptteil (4) mit einer in Gebrauch der Windel dem Körper zugewandten Innenseite und einer dem Körper abgewandten Außenseite, wobei der Hauptteil (4) einen Saugkörper (14) und ein Backsheet (10) auf der dem Körper abgewandten Seite des Saugkörpers (14) umfasst, und wobei der Saugkörper (14) eine geringere Breite aufweist als das Backsheet (10), und mit an den ersten und zweiten Seitenrand (5) angefügten Seitenteilen (16, 17), und wobei die Seitenteile (16, 17) eine Innenseite und eine Außenseite aufweisen und wobei die Seitenteile (17) im Rückbereich Verschlussmittel (32) mit mechanischen Verschlusshilfen (31) aufweisen und wobei die Verschlussmittel (32) zum bestimmungsgemäßen Festlegen der Windel an den Körper eines Menschen zumindest bereichsweise sowohl an der Außenseite des Hauptteils (4) als auch an der Außenseite der Seitenteile (16) im Vorderbereich (6) lösbar festlegbar sind und wobei die Haltekräfte zwischen den Verschlussmitteln (32) und der Außenseite des Hauptteils geringer sind als die Haltekräfte zwischen den Verschlussmitteln (32) und der Außenseite der Seitenteile (16) im Vorderbereich (6).
2. Absorbierende Inkontinenzwindel (2) nach Anspruch 1, dadurch gekennzeichnet, dass die Haltekräfte als Über-Bauch-Haltekräfte ermittelt zwischen den mechanische Verschlusshilfen (31) aufweisenden Verschlussmitteln (32) und der Außenseite des Hauptteils 57-20 N/25mm, insbesondere 50-25 N/25mm betragen.
3. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Haltekräfte als Über-Bauch-Haltekräfte ermittelt zwischen den mechanische Verschlusshilfen (31) aufweisenden Verschlussmitteln (32) und der Außenseite der Seitenteile im Vorderbereich 90-58 N/25mm, insbesondere 80-60 N/25mm betragen.

4. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die mechanischen Verschlusshilfen (31) Kletthaken umfassen.
5. Absorbierende Inkontinenzwindel (2) nach Anspruch 4, dadurch gekennzeichnet, dass zumindest ein Verschlussmittel (32) außerdem eine klebende Verschlusshilfe, insbesondere eine Haftklebezone umfasst.
6. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Inkontinenzwindel (2) vier diskrete nicht direkt miteinander verbundene Seitenteile (16, 17) aufweist, derart dass je ein Seitenteil an beiden Seitenrändern (5) des Vorderbereichs (6) und je ein weiteres Seitenteil an beiden Seitenrändern (5) des Rückbereichs (8) angefügt ist.
7. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Inkontinenzwindel (2) zwei diskrete nicht direkt miteinander verbundene Seitenteile aufweist, derart, dass ein erstes Seitenteil an den ersten Seitenrand angefügt ist und ein zweites Seitenteil an den zweiten Seitenrand angefügt ist.
8. Absorbierende Inkontinenzwindel (2) nach Anspruch 7, dadurch gekennzeichnet, dass das erste und zweite Seitenteil sich jeweils kontinuierlich vom Vorderbereich über den Schrittbereich bis in den Rückbereich erstreckt.
9. Absorbierende Inkontinenzwindel (2) nach Anspruch 8, dadurch gekennzeichnet, dass das erste und zweite Seitenteil im Schrittbereich einem Beinausschnitt aufweist.
10. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Außenseite des Hauptteils zumindest bereichsweise, insbesondere aber vollflächig durch einen Vliesstoff gebildet ist.
11. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass das Backsheet (10) aus einem

Vliesfolienlaminat gebildet ist, wobei der Vliesstoff (10a) außen und die Folien (10b) innen zum Saugkörper (14) gerichtet zu liegen kommt, so dass der Vliesstoff die Außenseite des Hauptteils (4) bildet.

12. Absorbierende Inkontinenzwindel (2) nach einem der Ansprüche 10-11, dadurch gekennzeichnet, dass das Flächengewicht des Vliesstoffes 10-30 g/m², insbesondere 14-25 g/m² und weiter insbesondere 18-22 g/m² beträgt.
13. Absorbierende Inkontinenzwindel (2) nach Anspruch 11, dadurch gekennzeichnet, dass die Folie aus einer ein- oder mehrschichtigen flüssigkeitsundurchlässigen aber gleichwohl atmungsaktiven Folie gebildet ist.
14. Absorbierende Inkontinenzwindel (2) nach einem der Ansprüche 10-13, dadurch gekennzeichnet, dass der Vliesstoff oder das Vliesfolienlaminat zur Verbesserung der Über-Bauch-Haltekräfte einer Temperaturbehandlung oberhalb von 60 °C unterzogen wurde.
15. Absorbierende Inkontinenzwindel (2) nach einem der Ansprüche 10-14, dadurch gekennzeichnet, dass der Vliesstoff oder das Vliesfolienlaminat zur Verbesserung der Über-Bauch-Haltekräfte einem Ring-Rolling ausgesetzt wurde.
16. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Außenseiten der Seitenteile (16, 17) im Vorder- und/oder im Rückbereich durch einen Vliesstoff gebildet sind.
17. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Seitenteile (16, 17) im Vorder- und/oder im Rückbereich durch einen luft- und wasserdampfdurchlässigen Vliesstoff gebildet sind.
18. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass das Flächengewicht der Seitenteile (16, 17) im Vorder- und/oder im Rückbereich 18-60 g/m², insbesondere 25-45 g/m², weiter insbesondere 27-40 g/m² und weiter insbesondere 28-35 g/m² beträgt.

19. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Atmungsaktivität der Seitenteile (16, 17) im Vorder- und/oder im Rückbereich größer ist als die Atmungsaktivität des Backsheets (10).
20. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Seitenteile (16, 17) im Vorder- und/oder im Rückbereich wenigstens um eine in Längsrichtung verlaufende Falzlinie auf sich selbst gefaltet sind.
21. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass aufeinander gefaltete und flächenhaft aneinander liegende Teilabschnitte der Seitenteile (16, 17) in dieser gefalteten Konfiguration an Fügestellen oder Fügebereichen lösbar aneinander fixiert sind.
22. Absorbierende Inkontinenzwindel (2) nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, dass die Seitenteile (16, 17) im Vorder- und/oder im Rückbereich ein Verstärkungsmittel (7) aufweisen, welches in Querrichtung (Q) betrachtet schmaler ausgebildet ist als ein jeweiliges Seitenteil (16, 17) und welches wenigstens in einem den Seitenrand (5) des Hauptteils (4) überbrückenden Bereich vorgesehen ist, also sowohl einen seitlichen Seitenrandbereich des Hauptteils (4) als auch einen Teil des Seitenteils (16, 17) in Querrichtung (7) überfängt.

34

Fig. 2

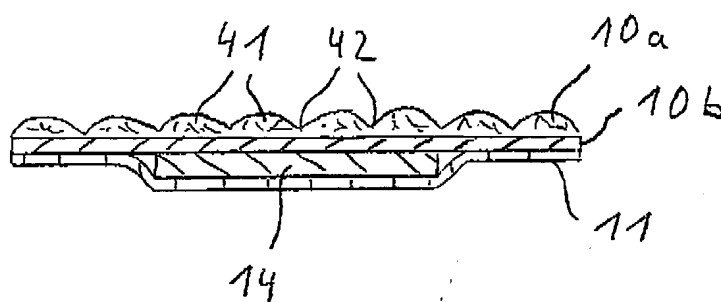


Fig. 3

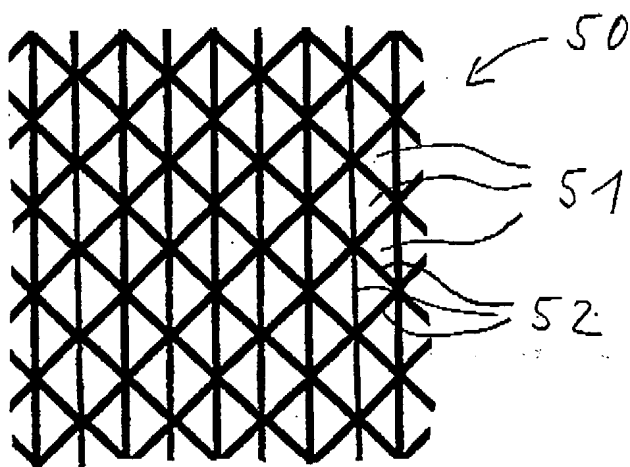
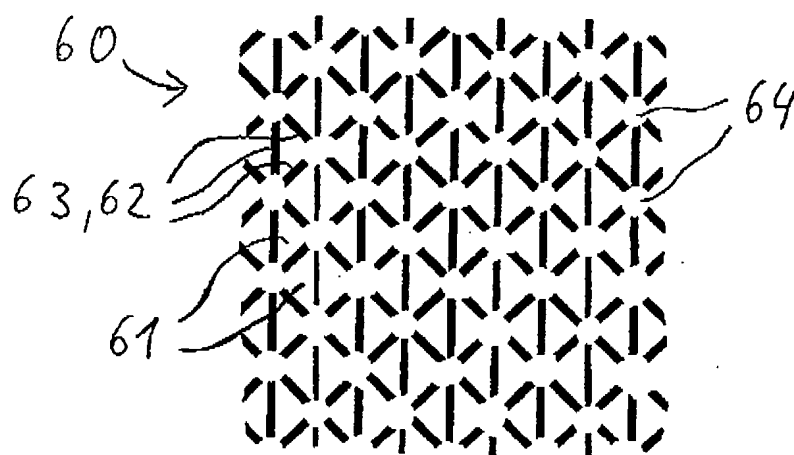
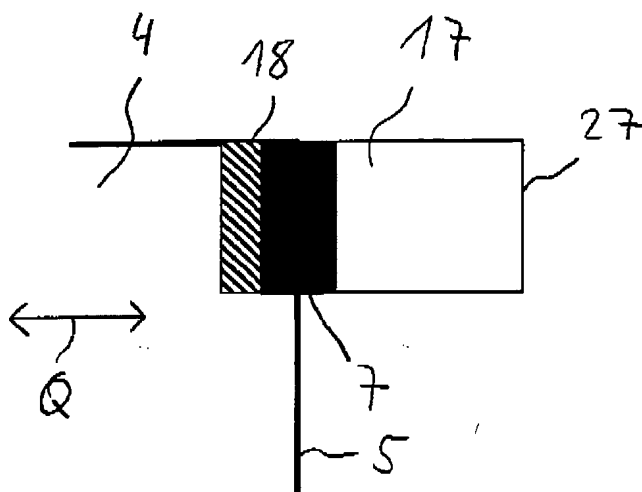


Fig. 4



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Fig. 5



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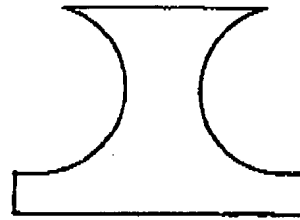


Fig. 6

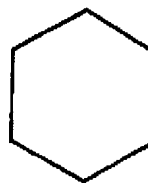
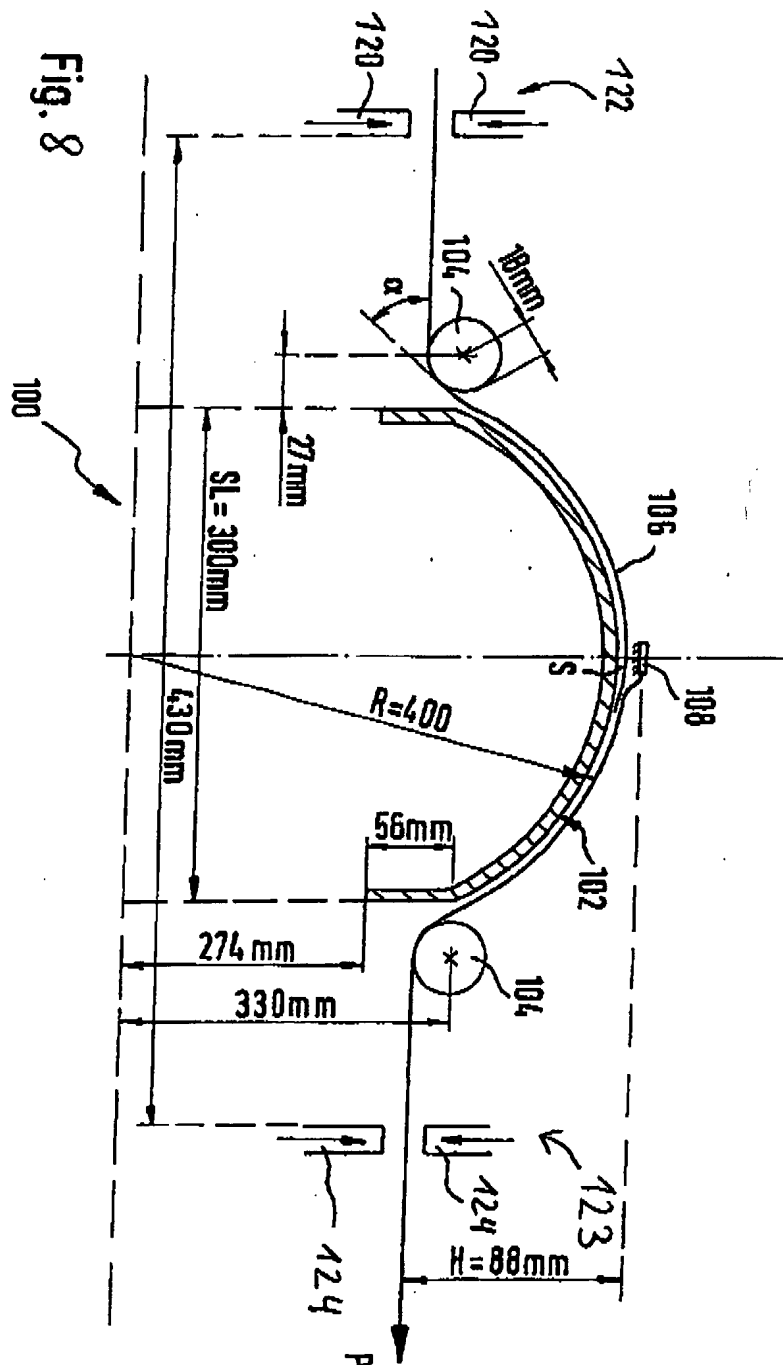


Fig. 7

3.7



3.8

Fig. 9a

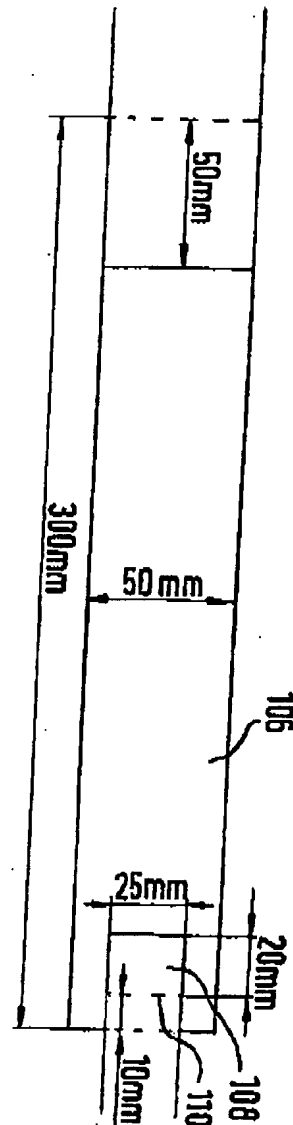
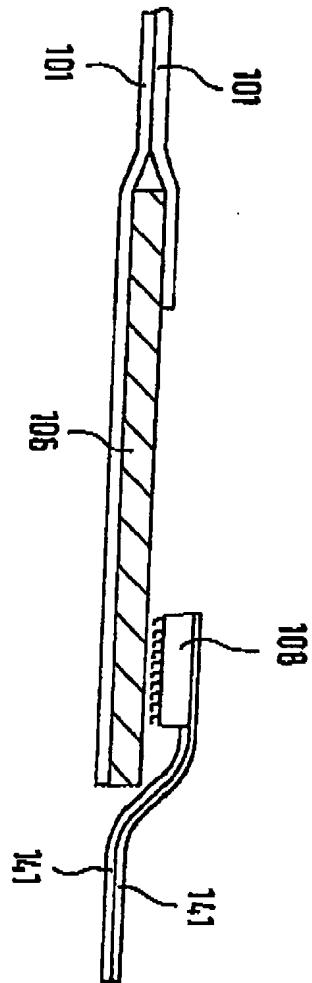


Fig. 9b



39

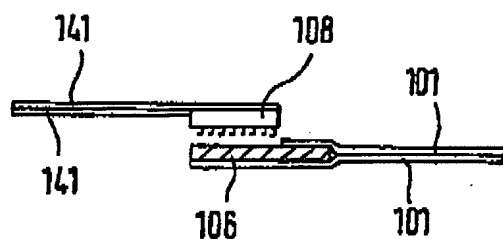


Fig. 9c

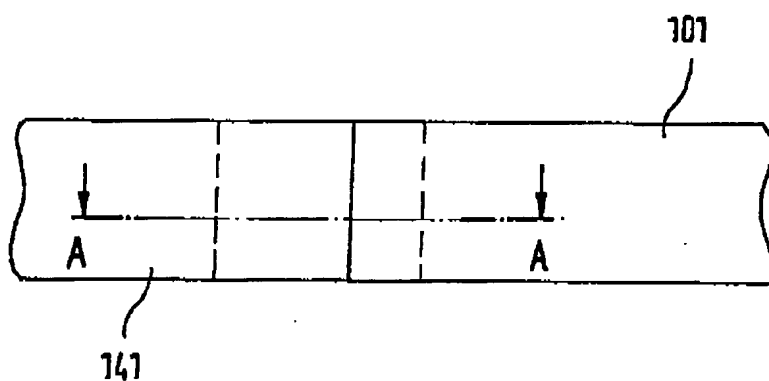


Fig. 9d

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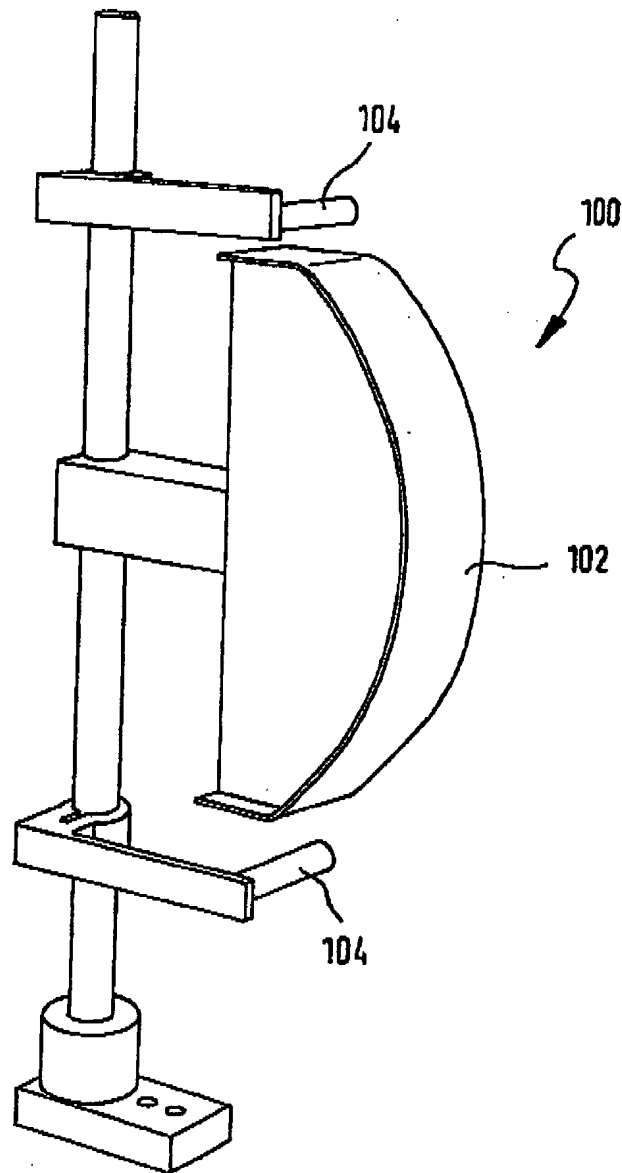


Fig. 10

41

Fig. 11a

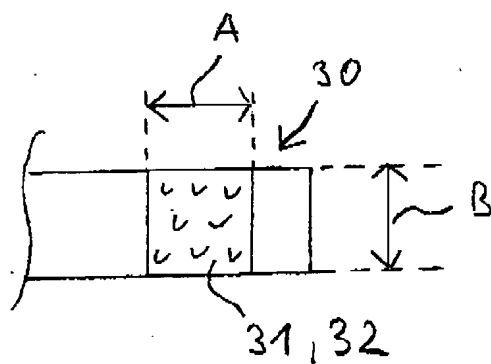
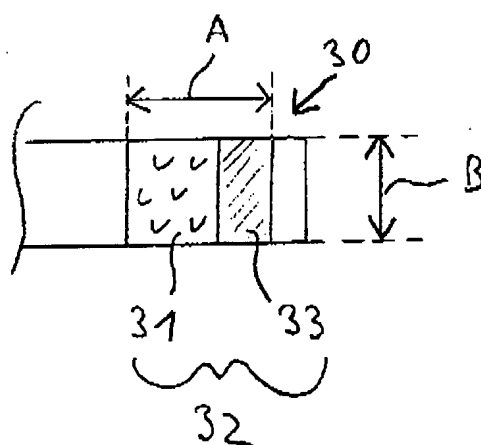


Fig. 11b



Zusammenfassung

Die Erfindung betrifft eine absorbierende Inkontinenzwindel (2) mit einem Rückbereich (8), einem Vorderbereich (6) und einem dazwischen liegenden Schrittbereich (12) und mit erstem und zweitem Seitenrand (5) und mit einem Hauptteil (4) mit einer in Gebrauch der Windel dem Körper zugewandten Innenseite und einer dem Körper abgewandten Außenseite, wobei der Hauptteil (4) einen Saugkörper (14) und ein Backsheet (10) auf der dem Körper abgewandten Seite des Saugkörpers (14) umfasst, und wobei der Saugkörper (14) eine geringere Breite aufweist als das Backsheet (10), und mit an den ersten und zweiten Seitenrand (5) angefügten Seitenteilen (16, 17), und wobei die Seitenteile (16, 17) eine Innenseite und eine Außenseite aufweisen und wobei die Seitenteile (17) im Rückbereich mechanische Verschlusshilfen (31) aufweisende Verschlussmittel (32) aufweisen. Zum bestimmungsgemäßen Festlegen der Windel an den Körper eines Benutzers sind die mechanischen Verschlussmittel (31) zumindest bereichsweise sowohl an der Außenseite des Hauptteils (4) als auch an der Außenseite der Seitenteile (16) im Vorderbereich (6) lösbar festlegbar. Die Haltekräfte zwischen den mechanischen Verschlussmitteln (31) und der Außenseite des Hauptteils sind geringer sind als die Haltekräfte zwischen den mechanischen Verschlussmitteln (31) und der Außenseite der Seitenteile (16) im Vorderbereich (6).

(Figur 1)

Fees as follows:

Filing, Search, and Examination fees	US \$ 1260.00
Total Claims 38-20 = 18 x \$ 62	US \$ 1116.00
Total Independent Claims 2-3 = 0 x \$ 250	US \$ 0.00
Multiple Dependent Claims 0 x \$ 460	
Total Filing Fee	US \$ 2376.00

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- () A extension of time has been filed in the parent application to ensure copendency.
- () Information Disclosure statement, including copy of each prior art reference and List of Prior Art.
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Docket No.: 1703 1923US3

PATENT

COMMISSIONER FOR PATENTS
Alexandria, VA 22313-1450
U.S.A.

Transmitted herewith for filing under 35 USC §120 is a continuation of patent application 13/404,019 filed February 24, 2012 of Inventors:

- 1.) BECKERT, Susanne
- 2.) KESSELMEIER, Ruediger

For:

ABSORBENT INCONTINENCE ARTICLE WITH
IMPROVED CLOSURE SYSTEM

Please note the following crossed items:

- (x) 40 sheets of written description, claims, and abstract.
- (x) 9 sheets of drawing.
- (x) An assignment **was filed in the original parent application.**
- () A copy of the Declaration and power of attorney
- () A certified copy of as filed on of which is claimed.
- () Small Entity Status is hereby claimed.
- () A preliminary amendment.

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Absorbent Incontinence Article with Improved Closure System

This application is a continuation of 13/404,019 filed on Feb. 24, 2012 as a continuation of 12/446,586 filed April 22, 2009 as the national stage of PCT/EP2007/009030 filed on October 18, 2007 and also claims Paris Convention Priority of EP 06 022 450.8 filed October 27, 2006, the entire disclosures of which are all hereby incorporated by reference.

BACKGROUND OF THE INVENTION

The invention relates to an absorbent incontinence diaper with a rear area, a front area, and a crotch area lying between these, and with first and second side edges, and with a main part having an inner face directed toward the body and an outer face directed away from the body during use of the diaper, the main part comprising an absorption body and a backsheet on the side of the absorption body directed away from the body, the absorption body having a smaller width than the backsheet, and with discrete side parts joined to the first and second side edges. The incontinence article is intended for adults and is constituted as a disposable diaper, that is, intended to be used only once.

Such incontinence diapers are known, for example, from WO2004/105668A1.

In such incontinence diapers, the side parts can be made from a different material from that of the main part. For example, the side parts, which are also frequently referred to as the "ears" of the incontinence diaper, may be breathable, in particular, permeable to air and water vapor, whereas the main part, which is frequently termed the chassis, can be constituted so as to be impermeable to liquids, in particular,

impermeable to moisture. To close the incontinence diaper, side parts non-detachably joined to the rear area are preferably wrapped onto the abdomen side of the user where they are detachably connected either to the outer face of the front area of the main part or to the outer face of the side parts of the front area.

If such an incontinence diaper is provided with mechanical closure aids, the problem results that, for the closure aids, which are usually constituted as hook-and-loop fasteners and are usually disposed on the rear side parts, a corresponding engagement surface must be provided on the outer face of the front area of the diaper that must be able to engage with the hooks of a hook-and-loop fastener.

However, the outer face of the main part of such incontinence diapers is usually constituted by a foil material to prevent the egress of liquid through the absorbent body to the outside. The side parts of such incontinence diapers are preferably made of smooth nonwoven materials to improve the diaper's gentleness to the skin in places where a secure barrier to liquid is not required. An engagement surface for secure attachment of the hooks of a hook-and-loop fastener on the outer face of the front area of the diaper would first require the attachment of an additional material, in particular, a known textile loop component. Such a loop component, however, would have to extend along a large part of the front area of the outer face of the diaper to guarantee the large degree of flexibility required for fitting incontinence diapers (diapers for adults). Because textile loop components are a considerable cost factor, such a solution is unacceptable for economic reasons alone.

Moreover, in the case of incontinence diapers of a known type, considerable differences in the subjectively perceived comfort of the diaper have been demonstrated despite side parts that are gentle to the skin and permeable to air and water vapor.

SUMMARY OF THE INVENTION

To solve these problems, it is suggested that the closure means having mechanical closure aids can, to correctly secure the diaper on the body of a user, be secured detachably at least in regions both on the outer face of the main part and also on the outer face of the side parts in the front area, the retaining forces between the mechanical closure means and the outer face of the main part being lower than the retaining forces between the mechanical closure means and the outer face of the side parts in the front area. The retaining forces are preferably determined as over-abdomen retaining forces.

The materials forming the outer face of the main part and the outer face of the side parts in the front area are inventively chosen so that, in addition to their primary function, they can also serve as the engagement surface for the closure means having mechanical closure aids.

Surprisingly it has also been shown that, when the retaining forces between the closure means and the outer face of the main part are smaller than the retaining forces between the closure means and the outer face of the side parts in the front area of the diaper, the users of the diapers tend to close the diaper in such a way that the closure means are secured on the outer face of the side parts in the front area. This, in turn, increases the wearing comfort of the diaper because it avoids overlapping of the side parts with the backsheet, which enables the advantages of the permeability to air and water vapor of the side parts to take effect without obstruction. Moreover, the risk of damage to the backsheet of the main part and therefore the risk of liquid passing through the mechanical closure aids is reduced.

The essential characteristic is that the retaining forces between the outer face of the main part and the closure means having mechanical closure

aids also help to hold the diaper on the body. For this purpose, it has proven advantageous if the over-abdomen retaining forces between the closure means and the outer face of the main part is 57-20 N/25 mm and, in particular, 50-25 N/25 mm.

Furthermore, the over-abdomen retaining forces between the closure means and the outer face of the side parts in the front area are preferably 90-58 N/mm and, in particular, 80-60 N/25mm.

To determine the over-abdomen retaining forces, the closure of forces exerted during lateral strain are measured. A test method for determining the closure forces during lateral strain is given below:

To perform the test method, tensile test device of type Z010 / TN 2S, strain gauge 100 N, obtainable from Zwick GmbH & Co KG, Ulm, Germany, can be used with a clamp jaw width of 60 mm for clamping the specimen. To perform the test method, the closure system to be tested with a loop component and a closure means having mechanical closure aids adhering thereto is placed on a curved surface, which is intended to simulate the curvature of the abdomen region of a user (see Figure 8). To connect the closure components with the clamp jaws of the tensile test device, a flexible substrate, for example, an adhesive tape with adhesive properties on one side with a preferred width of 25 mm, or 50 mm is used (obtainable from 3M Deutschland GmbH, Neuss, Germany, with the designation STA 306). The adhesive tape is made of polypropylene and its surface is coated with a urethane-modified silicone polymer. The mass per unit area of the adhesive coating is 23 g/m². The specimen placed upon the curved surface, consisting of sections of the closure system forming areas adhering to one another, is subjected to tensile strain using the tensile test device, resulting in lateral strain on the sections forming areas adhering to one another.

Preparing the sample:

The mechanical closure components to be used, that is, the material of the loop component 106 constituting the outer face of the front side parts of the main part and a closure means 108 of the closure system having mechanical closure aids, are conditioned at 23°C and 50% relative air humidity for 24 h. As is described in more detail below, the loop component may, for example, be a nonwoven material or nonwoven-foil laminate. Specimens of size 50 x 300 mm are punched out of the loop component and fixed centrally sandwiched between two 50-mm wide one-sided adhesive tapes 101 with their adhesive surfaces facing each other in such a way that the lower adhesive tape covers the entire area of the rear side of the section and the upper adhesive tape overlaps the upper side (in the case of a nonwoven-foil laminate, the upper side is the nonwoven side) of the loop component over a length of 50 mm in such a way that the loop component protrudes 50 x 250 mm beyond the tape (see figure 9a, figure 9b). Similarly, the closure means 108 having mechanical closure aids is punched out over its entire length, that is, the same length as is to be used for the incontinence diaper, in the example 20 mm, and over a width of 25 mm, and is fixed using two 25-mm wide one-sided adhesive tapes 141 bonded to each other with their adhesive surface facing each other in such a way that the upper adhesive tape covers the entire area of the rear side of the section forming an area and the lower adhesive tape abuts the section forming an area (see Figure 9a and Figure 9b). The section forming an area of the closure means 108 having mechanical closure aids is now placed on the loop component 106, the distance from the longitudinal end edge of the loop component being 10 mm and that from each side longitudinal edge being 12.5 mm (see Figure 9a). If the loop component 106 is available with a smaller dimension from the outset, so that it is not possible to provide a specimen measuring 50 mm x 300 mm, the size of the specimen with a width of 25 mm and a certain length are selected and this section is fixed centrally sandwiched between the ends of two 25-mm wide one-sided

adhesive tapes 101, as are described in more detail above, in such a way that the lower adhesive tape covers the entire area of the rear side of the section forming an area and the upper adhesive tape overlaps the loop component over such a length that the length of the loop component protruding beyond the tape is equal to the length of the section of the closure means 108 having mechanical closure aids (see Figure 9c, Figure 9d). In this case, the sections of the closure means 108 having mechanical closure aids and the loop component 106 prepared in this way are placed upon one another over their full area (Figure 9c, Figure 9d).

If no 25-mm wide section of the closure means 108 having mechanical closure aids is available, a correspondingly narrower section is used. In such cases, the forces determined are scaled with respect to a 25-mm wide section in such a way that the measured forces are multiplied by a factor f resulting from $f = 25 / x$, where x is the width of the specimen measured in mm.

The sections forming areas placed one upon the other in this way or in the way previously described are connected to each other by fourfold rolling with a 50-mm wide and 100-mm diameter roller with a smooth surface and roll weight of 5 kg, the rolling velocity being 20-100 mm/sec.

Test method:

The loop component 106 extended as described above is clamped centered in the lower clamp jaws 122 of the tensile test device, and the opposite end of the closure means 108 having mechanical closure aids extended as described above is also clamped into the movable upper clamp jaws 123 of the tensile test device, also centered. The specimen thus clamped is placed over the test setup 100 shown in figure 8 and figure 10 intended to simulate the abdomen or hip region of the user. This test setup 100 is shown in a perspective view in figure 10. A surface

102 curved in a bow made of polished steel with a surface roughness of 5 to 25 μm and a radius of curvature R of 400 mm at least in sections and a cord length SL 300 mm are depicted. Moreover, above and below the curved surface 102, 18-mm diameter redirection rollers 104 are provided that redirect the specimen placed over the curved surface by $H = 88$ mm in the vertical direction where it is then held in clamps 120, 124 of the tensile test device (not shown). The redirection is performed through an angle α of 60° . The pull-off angle is thus essentially tangential to the curved surface and kept constant. These sections 106, 108 forming areas placed one upon the other of the components of the closure means are positioned with respect to the curved surface 102 in such a way that the closure means having mechanical closure aids are centered in the center of the apex 5 of the curved surface 102. The movable clamp jaws 124 by which the closure means having mechanical closure aids are connected are moved in the direction of the arrow P at the test velocity stated below while the tensile force between the clamps is measured. The test parameters are:

- Test velocity: 300/min
- Clamping length of the specimen: 430 mm (see Figure 8)
- Measuring distance: distance until the components of the closure means separate
- Initial force: 0.2 N
- Number of test cycles: $n \geq 6$

Evaluation is performed in such a way that the maximum force measured before the closure means come apart rounded to 2 decimal places in N (Newtons) is recorded and stated as a mean value over n measurements.

For the mechanical closure aids, in particular, the hooks of a hook-and-loop fastener in the form known in prior art could be used. Preferably, a section having the hooks of the hook-and-loop fastener is laminated on

the closure strip material by a known method. A closure strip is preferably anchored at one free end of the side part in question and itself has a free user end with the mechanical closure aids.

However, it is also conceivable and advantageous to provide multiple sections having the hooks of a hook-and-loop fastener at intervals on each of the closure strips. In this case, the closure strip exhibits low rigidity and can better adapt to the curvature of the body when the diaper is worn. The individual sections having the hooks of a hook-and-loop fastener preferably have a width, that is, an extent in the cross-direction of the diapers, of 1 to 10 mm and, in particular, 2 to 6 mm. The distance between the individual sections is, in particular, 0.1 to 3 mm, and further, in particular, 0.7 to 2 mm.

It is also conceivable and advantageous for the closure strip material to be elastically stretchable at least in regions.

Moreover, it is conceivable and advantageous, in addition to the mechanical closure aids constituted as mechanical elements, preferably the hooks of hook-and-loop fasteners, to provide adhesive closure aids, such as pressure-sensitive adhesive regions on the closure strips, to ensure even more reliable adhesion for the purpose of primary closure or, secondarily, for the purpose of disposing of the used diaper. The pressure-sensitive adhesive regions can, in particular, be provided in an outer region of the closure strip, that is, a region directly bordering the free end of the closure strip.

It is further conceivable for the closure means having mechanical closure aids to be anchored directly on the inner face of the side parts. In this case, the closure means would not be disposed on a closure strip extending beyond the free end of the side part but inside the side edge of the side parts.

In a preferred embodiment, the absorbent incontinent diaper has four discrete, not directly interconnected side parts such that one side part is attached to each of the two side edges of the front area and a further side part, to each of the two side edges of the rear area. In this case, the crotch area of the diaper lying between the front and rear side parts has no side parts, which improves air circulation of the diaper when it is applied. The crotch area of the diaper is also formed without incurring production waste (no leg cutout).

In an alternative embodiment, the incontinence diaper has only two discrete, not directly interconnected side parts such that a first side part is attached to the first side edge and a second side part is attached to the second side edge. In this case, it is advantageous if the first and second side part each extend continuously from the front area over the crotch area to the rear area. In particular, it proves advantageous with respect to economic production and in providing an attractive appearance of the diaper if the side parts end flush with the transverse ends of the main part.

At least in the front area, preferably also in the rear area, the side parts preferably have a nonwoven component, in particular, the side parts are constituted without any use of foil, further, in particular, the side parts consist of a one- or multi-layer non-woven component.

The outer face of the main part of the incontinence diaper is preferably, at least in regions, but, in particular, over its entire surface constituted by a nonwoven material. Nonwovens are considerably less expensive than textile loop components and are also particularly gentle to the skin. They also lend the incontinence diaper a textile-like appearance. In this case, it is advantageous for the backsheet of the main part to be made of a nonwoven-foil laminate, the nonwoven layer being outside and the foil

layer being inside facing the absorbent body so that the nonwoven layer constitutes the outer face of the main part. This both ensures that the main part is impermeable to liquid and that the diaper is gentle to the skin.

The foil layer of this nonwoven-foil laminate is preferably made of a one- or multi-layer foil that is impermeable to liquid, but preferably also breathable. This has the advantage that the incontinence diaper is also breathable in the region of the main part.

All thermoplastic polymers can, in principle, be used as the materials for the foil. A large number of commercial products are available on the market. Preferably, LDPE (low-density polyethylene), LLDPE (linear low-density polyethylene), MDPE (medium-density polyethylene), HDPE (high-density polyethylene), and various PP (polypropylenes), and copolymers of ethylene or propylene are used combined with each other or with other comonomers. These polymers are used either in pure form or as polymer mixtures. Common ingredients for hygiene foils include mixtures of 10 to 90% by weight of LDPE, 10 to 90% by weight of LLDPE, and 0 to 50% of MDPE, for example, a mixture of 80% LDPE, 20% LLDPE and pigmentations suitable for the requirements.

Commercially available polymers for hygiene foils have the following melting point ranges or crystalline melting points:

LDPE = 112 to 114 °C

LLDPE = 119 to 125 °C

MDPE = 125 to 128 °C

PP (block copolymers) = 130 to 163 °C

Furthermore, ethylene vinyl acetate (EVA), ethylene acrylate (EA), ethylene ethyl acrylate (EEA), ethylene acrylic acid (EAA), ethylene methyl acrylate (EMA), ethylene butyl acrylate (EBA), polyester (PET),

polyamid (PA), e.g. Nylon, ethylene vinyl alcohols (EVOH), polystyrene (PS), polyurethane (PU) and thermoplastic olefin elastomers are suitable as thermoplastic polymer materials for this foil.

As the material of the foil, polyolefins, such as LDPE, LLDPE, and PP are preferred. Mixtures of these polymers, for example, mixtures of LDPE and LLDPE, mixtures of LDPE or LLDPE and PP or mixtures of PE and PP with different melting points are especially preferred.

The foil is manufactured using a known method, for example, by blow extrusion or cast methods. In these methods, the expansions that the foil undergoes during extrusion are at least partially responsible for the foil's shrinkage during subsequent tempering (described in more detail below). Additional stretching is not necessary but, if desired, can be performed in a known way. In the case of breathable laminates, the provision of the breathability is preferably achieved by including a fine filling material in the mixture and stretching the foil or the composite material. Stretching causes microcracks in the foil that ensure the necessary permeability to water vapor and gas without impairing the water tightness to any considerable degree.

Numerous types of nonwovens can be used for the nonwoven components of the outer face of the main part and for the nonwoven component of the side parts in the front area, and preferably also in the rear area. In particular, all nonwovens are suitable that contain at least one initial component based on a thermoplastic polymer. The nonwovens can be fibers made of PE, PP, PET, Rayon, cellulose, PA, and mixtures of these fibers. Also bi- or multi-component fibers are conceivable and advantageous. In particular, carded nonwovens, spunbonded nonwovens, water-jet needle-punched nonwovens, SM nonwovens, SMS nonwovens, SMMS nonwovens or also laminates of one or more of these types of nonwovens are advantageous, where each S stands for a spunbond layer

and each M for a meltblown nonwoven layer. Spunbond nonwovens are especially preferred because they possess high strength in the longitudinal and transverse direction and therefore withstand the lateral forces exerted on them due to the engagement of the mechanical closure aids especially well. To prevent fibers from being torn out of the nonwoven composite material when the mechanical closure aids are pulled apart, it is advantageous to provide the nonwoven component with an embossing pattern by means of which all fibers of the nonwoven component are preferably bound. In particular, a thermal embossing pattern is advantageously produced using calanders of the nonwoven material with the input of thermal energy.

The embossing pattern can include numerous spot-like joining points or joining regions in a known fashion and the joining points can have any conceivable geometric form. In particular, the joining points can be circular, oval, square, rectangular, rhombic, or star-shaped.

In an especially advantageous embodiment, the joining regions of the embossing pattern are disposed in such a way that the joining regions surround unconnected loop regions disposed in an island-like fashion. The joining regions can surround the loop regions continuously, that is, without gaps. However, it is also conceivable and advantageous for the joining regions to be formed, in particular, by smaller sections in the form of a line, that is, to provide the joining regions with gaps.

The geometrical shape of the unconnected loop regions disposed in an island-like fashion is in itself non-critical. The loop regions can be circular, oval, rectangular, square, triangular, hexagonal, octagonal, or have other polygonal shapes.

In particular, the joining regions can be constituted by numerous lines that intersect to form a regular rhombic pattern so that unconnected,

rhombic loop regions disposed in an island-like fashion are surrounded by line-like joining regions. The closure means having mechanical closure aids can securely engage with these loop regions without a risk of fibers coming loose from the nonwoven component. Such an embossing pattern is disclosed, for example, in EP0882828A1.

A further preferred embossing pattern with loop regions disposed in an island-like fashion is disclosed in DE102004053469A1 which is hereby incorporated by reference. This embossing pattern corresponds to the previously mentioned joining regions provided with gaps.

The proportion of the area covered by the joining points or joining regions is preferably 7-40%, in particular, 15-30%, further, in particular, 17-25%.

The mass per unit area of the nonwoven component for the outer face of the main part is preferably 10-30 g/m², in particular, 14-25 g/m², further, in particular, 18-22 g/m².

The mass per unit area of the nonwoven component for the side parts is preferably 18-60 g/m², in particular, 25-45 g/m², further, in particular, 27-40 g/m² and further, in particular, 28-35 g/m².

The mass per unit area of the nonwoven component for the side parts in the front area and preferably also in the rear area is preferably greater than the mass per unit area of the nonwoven component for the outer face of the main part. Due to the higher mass per unit area of the nonwoven component for the side parts, a higher closure retaining force is possible because the mechanical closure aids can engage with more fiber material. The higher mass per unit area of the nonwoven component of the side parts also encourages the user to fix the closure means having mechanical closure aids preferably to the side parts and

not to the outer face of the main part because the user associates greater reliability of closure with a higher mass per unit area and therefore preferably with a greater thickness of the nonwoven component. The nonwoven component of side parts therefore has a greater thickness than the nonwoven component of the outer part of the main part, the thickness being determined under a test pressure of 0.5 kPa.

In an especially preferred embodiment, the nonwoven components of the outer face of the main part of the side parts have the same embossing pattern. This is beneficial to the appearance of the hygiene article and the subjective perception of comfort by the user.

The nonwoven component of the outer face of the side parts in the front area, and preferably also in the rear area, is preferably constituted by a material that is permeable to water-based liquids. This improves the dissipation of perspiration from the inside to the outside.

In an especially preferred embodiment, the side parts in the front part and preferably also in the rear part consist essentially of a nonwoven component so that the outer face and also the inner face of the side parts largely comprise nonwoven components.

The outer face of nonwoven-foil laminate constituting the backsheet of an inventive incontinence diaper is intended to ensure an over-abdomen retaining force with the closure means having the mechanical closure aids that ensures secure attachment of the diaper to the body. For this purpose, it is advantageous, in addition to selecting suitable nonwoven and foil components, to use a suitable lamination method to produce the composite material made of a nonwoven and foil.

The lamination of the nonwoven component of the backsheet with the foil component of the backsheet can be performed by a known method by any joining methods, in particular, by gluing, embossing, ultrasonic welding, or thermocalandering. A preferred thermolamination method is disclosed in DE102004042405A1 and is hereby incorporated by reference.

It is also possible to produce the laminate by direct extrusion of the foil onto the nonwoven. Such composite materials are preferably subjected to a stretching step in at least one direction to increase the shrinkage that can be achieved in hot tempering (described in more detail below). Laminates in which the foil was connected to the nonwoven layer by direct extrusion are therefore embossed, stretched, in particular, by the known ring-rolling method, or preferably embossed and stretched.

Because many of the lamination methods for producing the nonwoven-foil laminates impair the plushness of the nonwoven component and therefore clearly reduce the over-abdomen retaining forces, it has proven advantageous to temperature-treat the nonwoven-foil laminate after lamination. This temperature-treatment results in the foil shrinking, in particular, by 1 to 10%, further, in particular, by 2-5%, in particular in the direction in which it previously was stretched during its production or during its lamination, that is, in the transverse and/or longitudinal direction. The shrinkage of the foil forces the nonwoven component connected to gather, resulting in an increase in mass per unit area, so that the nonwoven component can subsequently better engage with the closure means having mechanical closure aids and exhibits higher over-abdomen retaining forces than before temperature-treatment. Preferably temperature-treatment is performed by heating above the melting temperature of the foils. In such cases, the foil preferably has at least one component that has a lower melting point than at least one fiber

component of the nonwoven component so that the fiber structure is not destroyed by the heating.

When referring to polymer materials in this present application, the melting point is the temperature at which the shear modulus of the material tends to zero. In the case of polymers with crystalline components or crystalline polymers, the crystalline regions will (also) have melted at this temperature.

When referring to a foil, the melting point is the temperature at which the foil melts as a whole. If the foil comprises more than one material, this does not require that every component in itself have a melting point at or below the melting point of the foil, but rather the melting point of the foil regularly corresponds to the temperature at which the main thermoplastic component melts. For example, a breathable foil containing 60% calcium carbonate, 32% of a polymer with a crystalline melting point of 138 °C and 8% of a polymer with a crystalline melting point of 158 °C has a melting point of approximately 138 °C.

In the case of breathable foils, the breathability, for example, is mainly achieved by the addition of a fine filling material such as calcium carbonate, whose very high melting temperature essentially does not influence the melting point of the foil even with additives of over 50% by weight. For example, a foil made of a mixture of 60 % calcium carbonate with 40 % polymer has the same crystalline melting point as the polymer.

In the case of nonwovens comprising multiple material components, not all material components require a melting point above the temperature of the hot tempering, it is enough if at least one component has a higher melting point so that the integrity of the nonwoven is retained. It can even be advantageous if one material component of the nonwoven has a

lower melting temperature because this can improve the composite adhesion of the laminate.

The preferred heating temperature-treatment of the nonwoven-foil laminate can be performed either directly after production (in-line) or later and independently thereof (off-line). The treatment is performed using a known method but the temperature must be set at least above the melting point of the main thermoplastic components of the foil in the nonwoven-foil laminate.

The process window of the heating is bounded at the lower end by the minimum temperature at which the foil is in the molten liquid state that is essential for hot tempering. The maximum temperature of the heating is determined by the crystalline melting point of the nonwoven web and, in the case of breathable foils, possibly also by a loss of breathability of the foil that may occur at excessive temperatures. If heating reaches the crystalline melting point of the nonwoven web, the good softness of the laminate is lost and there is a risk of pin-holes forming in the composite material. In the case of breathable foils, the hot tempering should be performed at temperatures at which the molten material is still too viscous to close the pores. Alternatively, the breathability can be produced after hot tempering, for example, by subjecting the composite material to ring-rolling after this step.

The hot tempering is preferably performed by heating the nonwoven-foil laminate by means of one or more hot rollers or alternatively, for example, by means of infrared radiation until the foil, that is, at least the raw material component of the foil with the lowest melting point, has reached the molten liquid state. After heating, the composite material passes directly to slow-running cooling rollers so that shock-cooling occurs and shrinkage between the heating element and cooling is possible due to the 1 to 10% lower circumferential velocity of the cooling

rollers. The shrinkage should be in the range 1 to 10% (length/length) in the machine direction, shrinkage also occurs transverse to this, depending on the production and pretreatment of the foil. In the case of bubble foil, the transverse shrinkage is typically also 1 to 10%; for cast foils, it is typically lower. The temperature of the cooling rollers is preferably 10 to 30°C, so that the cooling of the composite material very quickly reaches a temperature below the melting point of the foil, e.g. within a fraction of a second.

Moreover, it has proven advantageous if the breathability of the side parts in the front area, and preferably also in the rear area, is greater than the breathability of the backsheet.

In an advantageous embodiment of the invention, the side parts in the front and/or rear area are folded open themselves about at least one folding line extending in the longitudinal direction. In particular, partial sections of the side parts folded on one another and lying against one another over an area in this folded configuration are detachably fixed to each other at joining points or in joining regions. This detachable fixture is preferably constituted by thermally or ultrasonically formed, preferably spot-shaped joining points. This has the advantage that the side parts can be reliably guided in fast-running production machines and also has advantages during removal from repackaging and preparation to apply the incontinence diapers. This makes the incontinence diaper easy to use and proves especially advantageous, in particular, for application by very infirm users.

In a further embodiment of this inventive principle, it proves advantageous if, in a partial section constituting the free end of the side part and folded in the transverse direction in this way, a grab region is provided for unfolding the material section. In the simplest case, this grab region can be constituted by a longitudinal side edge section of the

stated part section which the user can grip using the fingers. It would also be conceivable for a separate manually grippable grab element to be provided on the partial section in question, which would, however, incur an additional manufacturing cost.

It proves especially advantageous if the detachable fixture to all joining points or joining regions can be detached by a single pull on the grab area of each side part. This simplifies handling and makes the incontinence diaper easier to use. In connection with the significance and testing of the feature of unfolding by single pulling, express reference is made to DE102004021353A1 and the test method disclosed therein which are hereby incorporated by reference.

In a further embodiment of this inventive principle, the side parts in the front area, and preferably also in the rear area, are folded upon themselves about at least two folding lines so that in cross-section a Z-shaped configuration is formed. In a further preferred embodiment, the side parts are folded upon themselves about three folding lines.

In a further preferred embodiment of the inventive incontinence diaper, the grab areas are facing outward before the side parts are unfolded in the front area, and preferably also in the rear area, in the cross-direction, that is, facing away from each other and from the longitudinal center axis of the main part of the diaper when it is spread out on a flat undersurface, so that they can comfortably be gripped with the left hand of a user from the left and with the right hand of the user from the right.

The extent of a side part joined to the main part beyond the side edge in the transverse direction in the unfolded state is preferably at least 10 cm, in particular, at least 15 cm, and further, in particular, at least 18 cm. It is preferably no more than 35 cm, in particular, no more than 30 cm and further, in particular, no more than 27 cm. The side parts joined to the

main part have an extent in the longitudinal direction of the incontinence diaper in the area of joining to the main part of preferably at least 10 cm, in particular, at least 14 cm, in particular, at least 18 cm and further, in particular, at least 22 cm.

In a further embodiment of the invention, the side parts have (at least in the rear area) a reinforcing means that, viewed in the cross-direction, is narrower than each side part and that is provided at least in an area that bridges the side edge of the main part, that is, it extends both over a side edge area of the main part and over part of the side part in the transverse direction. This considerably increases the tear resistance of the side parts.

It proves especially advantageous if the reinforcing means extends essentially at least almost to a transverse edge of the side part facing the crotch area, that is, if it is flush with the transverse edge of the side part or even includes and surrounds the transverse edge.

The reinforcing means can extend in the longitudinal direction of the hygiene article, for example, over the entire longitudinal extent of the attached side part. It has been shown that this is not absolutely necessary but that it also proves advantageous if the reinforcing means has a smaller dimension in the longitudinal direction of the hygiene article than the attached side part itself. Because of the forces exerted during use on the side part and on the joining area of the side part and main part of the diaper, it is sufficient if the reinforcing means extends, for example, only up to 80% or, in particular, up to 60% and further, in particular, up to 50% of the longitudinal extent of the side part. This saves material compared with continuous reinforcement in the longitudinal direction.

The reinforcing means always extends beyond the side edge of the main part in the transverse direction toward the free end of the side part. This extending of the area of the reinforcing means beyond the side edge of the main part toward the free end of the side part, measured from the side edge of the main part, is preferably no more than 50%, in particular, no more than 35%, further, in particular, no more than 25%, further, in particular, no more than 20%, further, in particular, no more than 15%, further, in particular, no more than 10% of the transverse extent of the side part.

The reinforcing means also preferably extends in the transverse direction toward the longitudinal centerline of the main part so that it at least partially covers the region in which the side part and the materials of the main part overlap. The reinforcing means preferably extends over the entire overlapping region.

It proves highly advantageous if an attached side part can be constituted in the shape of a rectangle without the problem of tearing arising.

In a first embodiment of the invention, the inventively provided reinforcing means can be advantageously constituted by an attached reinforcing section, that is, by additional material added to the side part, in particular, applied on top of each side part. This reinforcing section can have any shape. This reinforcing section can, for example, also be constituted in the shape of a triangle.

This can be a section of a strip-shaped or ribbon-shaped material. In particular and advantageously, the reinforcing section can be constituted by a nonwoven material, textile material, or foil. Like the side parts, it can also be fed and attached in a continuous production process using the cut-and-place method.

If the reinforcing section is constituted by a nonwoven material and the reinforcing section is disposed on the outer face of the side parts, the outer face of the nonwoven material can preferably be engaged with the closure means having mechanical closure aids, for example, for the purpose of disposing of the used diaper.

The reinforcing section preferably has the same embossing pattern as the nonwoven material component of the side part and/or the outer face of the main part.

Multiple reinforcing sections can also be provided. The reinforcing means can be attached to one or both upper sides of the side part.

In an especially advantageous embodiment of the invention, the reinforcing means is constituted by the material of each side part itself by folding the side part once or multiply in the area overlapping the side area of the main part. In a top view of the hygiene article having just been unfolded, according to this embodiment, an area of each side part covering or overlapping the side edge of the main part is formed by double or multiple layers of material resulting from folding the side part. This provides especially effective protection against tearing. Folding of each side part in the shape of a Z, viewed in the longitudinal direction of the hygiene article, proves especially advantageous.

Further characteristics, details, and advantages of the invention result from the appended claims and from the drawings and the following description. Preferred embodiments of the inventive diaper in the drawing are shown by:

BRIEF DESCRIPTION OF THE DRAWING

- Figure 1 a top view of the outer face of an inventive incontinence diaper
- Figure 2 cross-sectional view along a line A-A of the incontinence diaper shown in Figure 1
- Figure 3 an embossing pattern for a nonwoven material component
- Figure 4 a further embossing pattern for a nonwoven material component
- Figure 5 a schematic representation of the joining of the side part to a main part with reinforcing means
- Figures 6 and 7 representations of hooks of a hook-and-loop fastener of a mechanical closing aid
- Figure 8 schematic representation of the structure of a tensile test using a device with a curved surface
- Figures 9a-9d schematic representations of the test object
- Figure 10 perspective view of the device shown in figure 8
- Figures 11a, 11b top view of the user end of closing strips of an incontinence diaper

DESCRIPTION OF THE PREFERRED EMBODIMENT

Figure 1 shows a schematic top view of the outer face of an absorbent incontinence diaper 2 in a state of having just been unfolded. The

incontinence diaper comprises a main part 4 with the longitudinal centerline L consisting of a front area 6, a rear area 8, and a crotch area 12 lying between the two in the longitudinal direction L. It also shows an absorbent body 14, which is usually disposed between the chassis-forming materials of the main part, that is, in particular, between a topsheet 11 that is permeable to liquids and a backsheet 10 of the main part 4 that is impermeable to liquids. However, embodiments are also conceivable in which the absorbent body can be applied to a chassis-forming layer of the main part as a separate unit provided with leakage protection and can be detachably or non-detachably fixed there.

Furthermore, the incontinence diaper 2 comprises front side parts 16 and rear side parts 17 that are attached to the main part 4 on both sides as separate nonwoven material components. They are each rectangular in shape, which is not essential, but is advantageous in terms of avoiding wasteful offcuts. The side parts are non-detachably connected in an overlap area 18 shown hatched with the chassis-forming materials of the main part 4, that is, for example, with the backsheet 10 and/or the topsheet 11 for use as intended. They extend beyond the lateral longitudinal edges 5 of the main part 4 in the transverse direction Q of the main part 4. The side parts 16, 17 are intended to be connected to each other when the incontinence diaper is applied to form a hip region of the hygiene article that is continuous in the circumferential direction. For this purpose, the side parts 16, 17 provided on one side of the main part are connected. This is achieved with closure means 32 having mechanical closure aids 31, in particular, hooks of a hook-and-loop fastener, of the closing strips 30 can be fixed on the outer face of the front side parts 16. Figure 11a shows an enlarged top view of the user end of one of the closing strips 30 having a closure means 32 that is constituted only by the section of mechanical closure aids 31 in the form of hooks of a hook-and-loop fastener. The width B of the section of mechanical closure aids 31 is 25 mm in this case and its length A is 20

mm in this case. Figure 11b shows an alternative embodiment of the user end of a closing strip 30 with a closure means 32 that is constituted by one section of mechanical closure aids 31 and one section of adhesive closure aids in the form of a pressure-sensitive adhesive region 33, the width B of the closure means 32 being 25mm and the length A of the closure means 32 being 30mm.

At least the front side parts 16, preferably also the rear side parts 17, are constituted by a nonwoven material component, in the case shown in the diagram, by a PP spunbond nonwoven with a mass per unit area of 30 g/m². The fiber thickness is 2 dtex. The outer face of the nonwoven material has an embossing pattern 20 that is only indicated schematically in Figure 1. The joining regions produced by hot calender embossing are formed by a multiplicity of lines, that is, by two groups of lines extending parallel within each group, wherein the lines of one group intersect the lines of another group to form a regular rhombic pattern at an angle of 33° to produce unconnected rhombic loop regions 21 disposed in an island-like a fashion surrounded by line-like joining regions 22. The lines forming the joining regions 22 have a width of 1.0 mm in the case shown and an embossing depth of 0.6 mm. The distance between pairs of adjacent parallel lines of both groups of lines is 4.7 mm. The embossing area, that is, the sum of the area of all joining regions 22 with reference to the total area of the embossing pattern (joining regions + loop regions) is 32%.

The closure means 32 disposed on the inner face of the closing strips 30 of the rear side parts 17 can reliably engage with these loop regions 21 without any risk of fibers coming loose from the nonwoven component to an excessive degree.

The outer face of the backsheet 10 of the main part 4 is constituted by a backsheet nonwoven material component 10a. The diagram in figure 2

(not to scale) shows that the backsheet is formed from a nonwoven-foil laminate, that is, a backsheet foil component 10b is disposed between the absorbent body 14 and the backsheet nonwoven material component 10a. Figure 2 also schematically shows the joining regions 42 and the loop regions 41 of the embossing pattern 40. In the case shown, the backsheet nonwoven material component 10a is also made of a PP spunbond nonwoven, but with a mass per unit area of 20 g/m². The fiber thickness is 2 dtex. The outer face of this spunbond nonwoven bears an embossing pattern 40, only indicated schematically in figure 1. In fact, the embossing pattern 40 extends over the entire outer face of the main part 4 from the front area 6, across the crotch area 12, to the rear area 8 of the incontinence diaper 2. The joining regions produced by hot calander embossing are constituted by a multiplicity of lines that mutually intersect to form a regular rhombic pattern so that unconnected rhombic loop regions 41 disposed in an island-like fashion are surrounded by line-like joining regions 42. In the case shown, the embossing pattern 40 of the backsheet nonwoven material component 10a is identical to the embossing pattern 20 of the nonwoven material component of the front side parts 16.

The over-abdomen retaining forces between the closure means 32 and the outer face of the side parts 16 are preferably at least 58 N/25mm and are higher than the over-abdomen retaining forces between the closure means 32 and the outer face of the backsheet nonwoven material component, which are preferably at least 20 N/25mm. This is essentially ensured by the higher mass per unit area of the nonwoven component of the side parts.

Figure 3 schematically shows an alternative embossing pattern 50 produced by hot calandering for the nonwoven material components of the front side parts 16 and/or the backsheet 10. The embossing pattern 50 has joining regions that are formed by a multiplicity of lines and that

mutually intersect to form a regular pattern so that unconnected triangular loop regions 51 disposed in an island-like a fashion are surrounded by line-like joining regions 52. The joining region, that is, the sum of the area of all joining regions 52 with reference to the total surface of the area of the nonwoven material covered by the embossing pattern 50 is 23 % in this case.

Figure 4 shows a schematic representation (not to scale) of a variant of the embossing pattern 50 shown in Figure 3. In this case, the embossing pattern is an open embossing pattern 60. The joining regions 62 surround the triangular loop regions 61 discontinuously, that is with gaps, but the joining regions 62 are formed from a multiplicity of, in particular, smaller sections of line-like joining points 63 that do not intersect; the joining regions 62 are therefore provided with interruptions 64. This results in overall better tactile characteristics, in particular, in greater softness of a nonwoven material component provided with this embossing pattern 60. The line-like joining points 63 form the disconnected legs of a triangle. In a preferred embodiment of the open embossing pattern 60, the line-like joining points 63 have a length of 3 to 7 mm, in particular, 4 to 5 mm. The joining points 63 preferably have a uniform length so that they form a multiplicity of equilateral triangles. The width of the joining points 63 is preferably 0.2 to 0.8 mm, in particular, 0.4 to 0.6 mm. The embossing depth is preferably 0.2 to 1.0 mm, in particular, 0.4 to 0.8 mm. The embossing area, that is, the sum of the area of all joining regions 62 with reference to the total area of the region covered by the embossing pattern 60 is preferably 15 to 50%, in particular, 17 to 40%, further, in particular, 19 to 25%. In the case shown in figure 4, the embossing area is approximately 21%.

Figure 5 shows a section of the rear area of an inventive embodiment of the incontinence diaper 2, wherein the schematically represented rear side part 17 has a reinforcing means 7 that is narrower than the side part

17 in the cross-direction Q. However, the reinforcing means 7 extends in the transverse direction Q beyond the side edge 5 of the main part 4. The reinforcing means 7 partially extends over the overlap region 18, as is shown schematically in figure 5. It therefore extends both over the lateral side edge 5 toward the free end 27 of the side part 17 and toward the overlap region 18, that is, toward a longitudinal centerline L of the main part 4.

The reinforcing means 7 can be constituted in different ways just as long as it provides tear protection for the side section 17, in particular, on application of a tensile force directed obliquely to the transverse direction Q on the side part 17 or the overlap area 18 on closure of the diaper by means of the closing strips 30 (not shown in figure 5). The reinforcing means 7 can, for example, be constituted by an additional reinforcing section, for example, nonwoven or foil, or by any material with reinforcement properties. This can be applied to the material of the side section 17 by any joining method, in particular, using an adhesive.

In a further embodiment not shown, the reinforcing means 7 is constituted by the material of the side part 17 itself by folding the side part 17 onto itself, in particular, in the shape of a Z, wherein the folded configuration extends beyond the side edge 5 of the main part 4 in the transverse direction Q toward the free end of the side part 17.

An especially preferred incontinence diaper 2 has the following components relevant to the over-abdomen retaining forces.

As front side parts 16:

Material X: comprising 30-g/mm² polypropylene spunbond nonwoven, fiber thickness 2 dtex, hot calander embossing pattern on the outer face of the side part material according to figure 4, wherein the joining points 63 have a uniform length of 4.5 mm for a width of the joining points of

0.4 mm and for an embossing depth of 0.65 mm and an embossing area of 21.13%. The material can be obtained from Corovin GmbH Wohtorfer Str. 124, D-31201 Peine, Germany.

As backsheet 10:

Material Y: A nonwoven-foil laminate was used that preferably forms the complete outer face of main part 4 of the incontinence diaper 2. The nonwoven material component comprises a 20-g/m² polypropylene spunbond nonwoven, fiber thickness 2 dtex, with a hot calander embossing pattern like that of the front side parts 16, that is, a hot calander embossing pattern according to figure 4, wherein the joining points 63 have a uniform length of 4.5 mm for a width of the joining points of 0.4 mm and an embossing depth of 0.65 mm and an embossing area of 21.13%, available from Corovin GmbH Wohtorfer Str. 124, D-31201 Peine, Germany. The foil component is a blow-extruded foil available from Rheinische Kunststoffwerke GmbH, Alkorstrasse 6, D-83512 Wasserburg, Germany. The foil is made using 70 % low-melting-point polypropylene compound (melting point approx. 137 to 143 °C) and 30% high-melting-point polypropylene compound (melting point 158 to 164 °C). The compounds comprise a mixture of polymer raw material plus 60% CaCO₃ (chalk). After the blow extrusion of the precursor foil with a mass per unit area of 40 g/m², the foil was stretched in the machine direction using a mono axial MDO stretch device. In this way, the foil was stretched to a stretch ratio of 1:2 in the machine direction, that is, to a mass per unit area of 20 g/m² and therefore made breathable. The breathable foil was then thermolaminated at 130 to 140°C together with the polypropylene spunbond nonwoven (20 g/m²) in a device such as is disclosed and described in figure 1 of DE102004042405A1. The nonwoven-foil laminate thus produced was then subjected to ring-rolling in the CD (transverse to the machine direction). This laminate was then subjected to hot tempering. The laminate passed through two hot rollers disposed one behind the other,

whereby it was heated to a temperature above the melting point of the foil but below the melting point of the polypropylene spunbond nonwoven, that is, to 130 to 140°C. After the second hot roller, the laminate was directly fed to cooling rollers disposed one behind the other. These had a circumferential velocity lower than that of the heating rollers by an amount equivalent to the desired shrinkage in the machine direction, in this case approximately 5%.

As closure means 32 having mechanical closure aids 31

Material Z: section of hooks of a hook-and-loop fastener with dimensions 20 x 25 mm. Type Microplast® 42-288-HX200-PP3, item number 25445, available from G. Binder GmbH & Co KG Textil- und Kunststofftechnik, Holzgerlingen, Federal Republic of Germany. The representation of the shape of these hooks of a hook-and-loop fastener is shown in figures 6 and 7. The hooks are mushroom-shaped (figure 6) with a hexagonal head surface 8 (figure 7). The hook density (number of hooks per unit area) is 288 hooks per cm². The material consists of polypropylene and has a thickness of 0.42 mm. It is manufactured by extrusion. The height of the mushroom-shaped protrusions over the base of the material is 0.26 mm. The distance between the edges of the hook heads is 200 µm.

The over-abdomen retaining forces of these materials determined as lateral forces according to the test method described above are as follows:

Outer face (embossing pattern side) of material X with material Z: 65.3 N/25mm

Outer face (nonwoven material side) of material Y with material Z: 48.6 N/25mm

The over-abdomen retaining forces of the closure means with the outer face of the side part material are therefore greater than the over-

abdomen retaining forces of the closure means with the outer face of the nonwoven-foil laminate constituting the backsheet.

WE CLAIM:

1. An absorbent incontinence diaper comprising:

a main part having an inner face directed toward a user body and an outer face directed away from the user body, said main part having an absorption body and a backsheet on a side of said absorption body directed away from the user body, said absorption body having a smaller width than said backsheet, said main part also having a rear area, a front area and a crotch area lying between said rear area and said front area, said main part further defining first and second side edges; and side parts joined to said first and said second side edges, said side parts having an inner face and an outer face, wherein the incontinence diaper has four discrete, not directly connected side parts, with one side part being attached to each of two side edges of said front area and a further side part being attached to each of two side edges of said rear area, said side parts of said rear area having mechanical closure means, said closure means having mechanical closure aids for correctly securing the diaper on the body of a user, said closure means being structured and dimensioned for detachable fastening to said outer face of said main part and to said outer face of said side parts in said front area, wherein retaining forces between said mechanical closure means and said outer face of said main part are lower than retaining forces between said mechanical closure means and said outer face of said side parts in said front area.

2. The absorbent incontinence diaper of claim 1, wherein said retaining forces are determined as over-abdomen retaining forces.

3. The absorbent incontinence diaper of claim 1, wherein said retaining forces, determined as over-abdomen retaining forces between said closure means having said mechanical closure aids and said outer face of said main part, are 57-20 N/25 mm or 50-25 N/25 mm.
4. The absorbent incontinence diaper of claim 2, wherein said retaining forces, determined as over-abdomen retaining forces between said closure means having said mechanical closure aids and said outer face of said main part, are 57-20 N/25 mm or 50-25 N/25 mm.
5. The absorbent incontinence diaper of claim 1, wherein said retaining forces, determined as over-abdomen retaining forces between said closure means having said mechanical closure aids and said outer face of said side parts in said front area, are 90-58 N/25 mm or 80-60 N/25 mm.
6. The absorbent incontinence diaper of claim 2, wherein said retaining forces, determined as over-abdomen retaining forces between said closure means having said mechanical closure aids and said outer face of said side parts in said front area, are 90-58 N/25 mm or 80-60 N/25 mm.
7. The absorbent incontinence diaper of claim 1, wherein said mechanical closure aids comprise hooks of a hook-and-loop fastener.
8. The absorbent incontinence diaper of claim 7, wherein at least one said closure means also comprises an adhesive closure aid or a pressure-sensitive adhesive region.
9. The absorbent incontinence diaper of claim 2, wherein at least portions or an entire area of said outer face of said main part is constituted by a nonwoven material.

10. The absorbent incontinence diaper of claim 1, wherein said backsheet is constituted by a nonwoven-foil laminate, wherein outside nonwoven material and inside foils seat facing said absorbent body, wherein said nonwoven material constitutes an outer face of said main part.
11. The absorbent incontinence diaper of claim 9, wherein said nonwoven material has a mass per unit area of 10-30 g/m², 14-25 g/m² or 18-22 g/m².
12. The absorbent incontinence diaper of claim 10, wherein said foil is constituted by a breathable one- or multi-layer foil that is impermeable to liquids.
13. The absorbent incontinence diaper of claim 9, wherein said nonwoven material or a nonwoven-foil laminate is subjected to temperature treatment above 60° C. to improve said over-abdomen retaining forces.
14. The absorbent incontinence diaper of claim 9, wherein said nonwoven material or a nonwoven-foil laminate is subjected to ring-rolling to improve said over-abdomen retaining forces.
15. The absorbent incontinence diaper of claim 1, wherein said outer faces of said side parts in said front and/or said rear area are constituted by a nonwoven material.
16. The absorbent incontinence diaper of claim 15, wherein at least portions or an entire area of said outer face of said main part is constituted by a nonwoven material and a mass per unit area of said nonwoven material of said side parts in said front and/or said rear

area is greater than a mass per unit area of said nonwoven material of said outer face of said backsheet.

17. The absorbent incontinence diaper of claim 16, wherein a thickness of the nonwoven material of said side parts in said front and/or said rear area is greater than a thickness of said nonwoven material of said outer face of said backsheet, the thickness being determined under a test pressure of 0.5 kPa.
18. The absorbent incontinence diaper of claim 1, wherein said side parts in said front and/or said rear area are constituted by a nonwoven material that is permeable to air and water vapor.
19. The absorbent incontinence diaper of claim 1, wherein a mass per unit area of said side parts in said front and/or said rear area is 18-60 g/m², 25-45 g/m², 27-40 g/m² or 28-35 g/m².
20. The absorbent incontinence diaper of claim 1, wherein a breathability of said side parts in said front and/or said rear area is greater than a breathability of said backsheet.
21. The absorbent incontinence diaper of claim 1, wherein said side parts in said front and/or said rear area are folded upon themselves at least about one folding line extending in a longitudinal direction.
22. The absorbent incontinence diaper of claim 1, wherein partial sections of said side parts are folded upon each other and lie against one another over an area, said partial sections being detachably fixed to each other in folded configuration at joining points or joining regions.

23. The absorbent incontinence diaper of claim 1, wherein said side parts in said front and/or said rear area have a reinforcing means which, when viewed in a transverse direction, is narrower than each side part, said reinforcing means being provided in at least a region overlapping said side edge of said main part, thereby overlapping both a lateral side edge region of said main part and part of said side part in said transverse direction.
24. The absorbent incontinence diaper of claim 1, wherein the extent of a side part in the front area and the rear area joined to the main part beyond the side edge of the main part in a transverse direction in an unfolded state is at least 15 cm and no more than 35 cm.
25. The absorbent incontinence diaper of claim 1, wherein the side parts in the front and the rear area joined to the main part have an extent in a longitudinal direction of the incontinence diaper in the area of joining to the main part of at least 14 cm.
26. An absorbent incontinence diaper comprising:
- a main part having an inner face directed toward a user body and an outer face directed away from the user body, said main part having an absorption body and a backsheet on a side of said absorption body directed away from the user body, said absorption body having a smaller width than said backsheet, said main part also having a rear area, a front area and a crotch area lying between said rear area and said front area, said main part further defining first and second side edges; and
- side parts joined to said first and said second side edges, said side parts having an inner face and an outer face, wherein the incontinence diaper has four discrete, not directly connected side parts, with one side part being attached to each of two side

edges of said front area and a further side part being attached to each of two side edges of said rear area, wherein said crotch area has no side parts, and said side parts of said rear area having mechanical closure means, said closure means having mechanical closure aids for correctly securing the diaper on a body of a user, said closure means being structured and dimensioned for detachable fastening to said outer face of said main part and to said outer face of said side parts in said front area, wherein retaining forces between said mechanical closure means and said outer face of said main part are lower than retaining forces between said mechanical closure means and said outer face of said side parts in said front area.

27. The absorbent incontinence article of claim 26, wherein said retaining forces are determined as over-abdomen retaining forces.
28. The absorbent incontinence diaper of claim 26, wherein said outer faces of said side parts in said front and/or said rear area are constituted by a nonwoven material.
29. The absorbent incontinence diaper of claim 28, wherein at least portions or an entire area of said outer face of said main part is constituted by a nonwoven material and a mass per unit area of said nonwoven material of said side parts in said front and/or said rear area is greater than a mass per unit area of said nonwoven material of said outer face of said backsheet.
30. The absorbent incontinence diaper of claim 29, wherein a mass per unit area of said side parts in said front and/or said rear area is 18-60 g/m², 25-45 g/m², 27-40 g/m² or 28-35 g/m².

31. The absorbent incontinence diaper of claim 29, wherein a thickness of the nonwoven material of said side parts in said front and/or said rear area is greater than a thickness of said nonwoven material of said outer face of said backsheet, the thickness being determined under a test pressure of 0.5 kPa.
32. The absorbent incontinence diaper of claim 26, wherein said side parts in said front and/or said rear area are folded upon themselves at least about one folding line extending in a longitudinal direction.
33. The absorbent incontinence diaper of claim 26, wherein said retaining forces, determined as over-abdomen retaining forces between said closure means having said mechanical closure aids and said outer face of said main part, are 57-20 N/25 mm or 50-25 N/25 mm.
34. The absorbent incontinence diaper of claim 27, wherein said retaining forces, determined as over-abdomen retaining forces between said closure means having said mechanical closure aids and said outer face of said main part, are 57-20 N/25 mm or 50-25 N/25 mm.
35. The absorbent incontinence diaper of claim 26, wherein said retaining forces, determined as over-abdomen retaining forces between said closure means having said mechanical closure aids and said outer face of said side parts in said front area, are 90-58 N/25 mm or 80-60 N/25 mm.
36. The absorbent incontinence diaper of claim 27, wherein said retaining forces, determined as over-abdomen retaining forces between said closure means having said mechanical closure aids and

said outer face of said side parts in said front area, are 90-58 N/25 mm or 80-60 N/25 mm.

37. The absorbent incontinence diaper of claim 26, wherein an extent of a side part in the front area and the rear area joined to the main part beyond the side edge of the main part in a transverse direction in an unfolded state is at least 15 cm and no more than 35 cm.
38. The absorbent incontinence diaper of claim 26, wherein the side parts in the front and the rear joined to the main part have an extent in a longitudinal direction of the incontinence diaper in an area of joining to the main part of at least 14 cm.

Abstract

An absorbent incontinence diaper (2) has a rear area (8), a front area (6) and an intermediate crotch area (12), first and second side edges (5), and with a main part (4) having an inner face directed towards the body and an outer face directed away from the body. Side parts (16,17) are joined to the first and second side edges (5), the side parts (16,17) having an inner face and an outer face, the side parts (17) in the rear area having closure means (32) with mechanical closure aids (31). The retaining forces between the mechanical closure means (31) and the outer face of the main part are lower than the retaining forces between the mechanical closure means (31) and the outer face of the side parts (16) in the front area (6).

Fig. 2

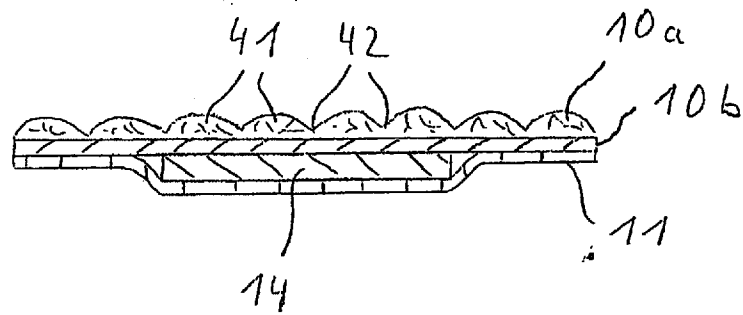


Fig. 3

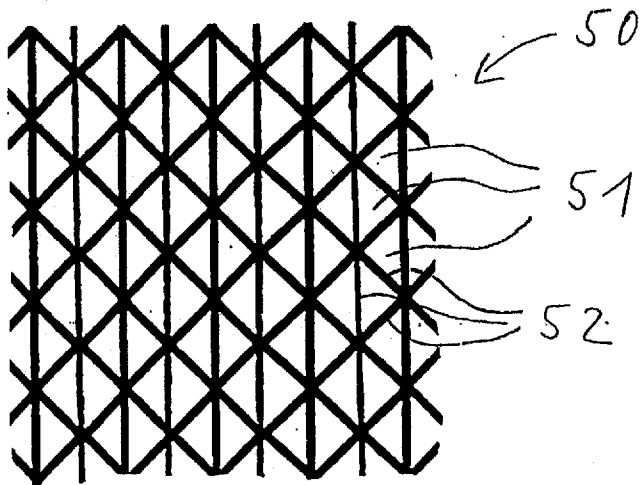


Fig. 4

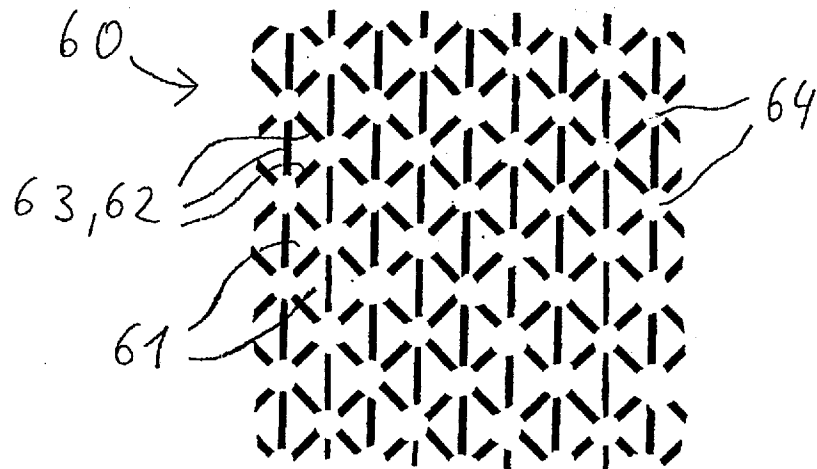
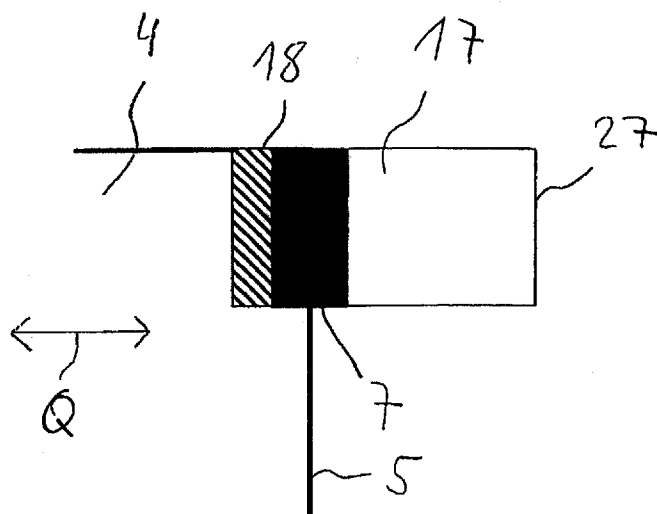


Fig. 5



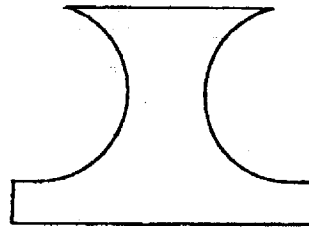


Fig. 6

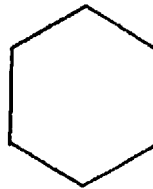
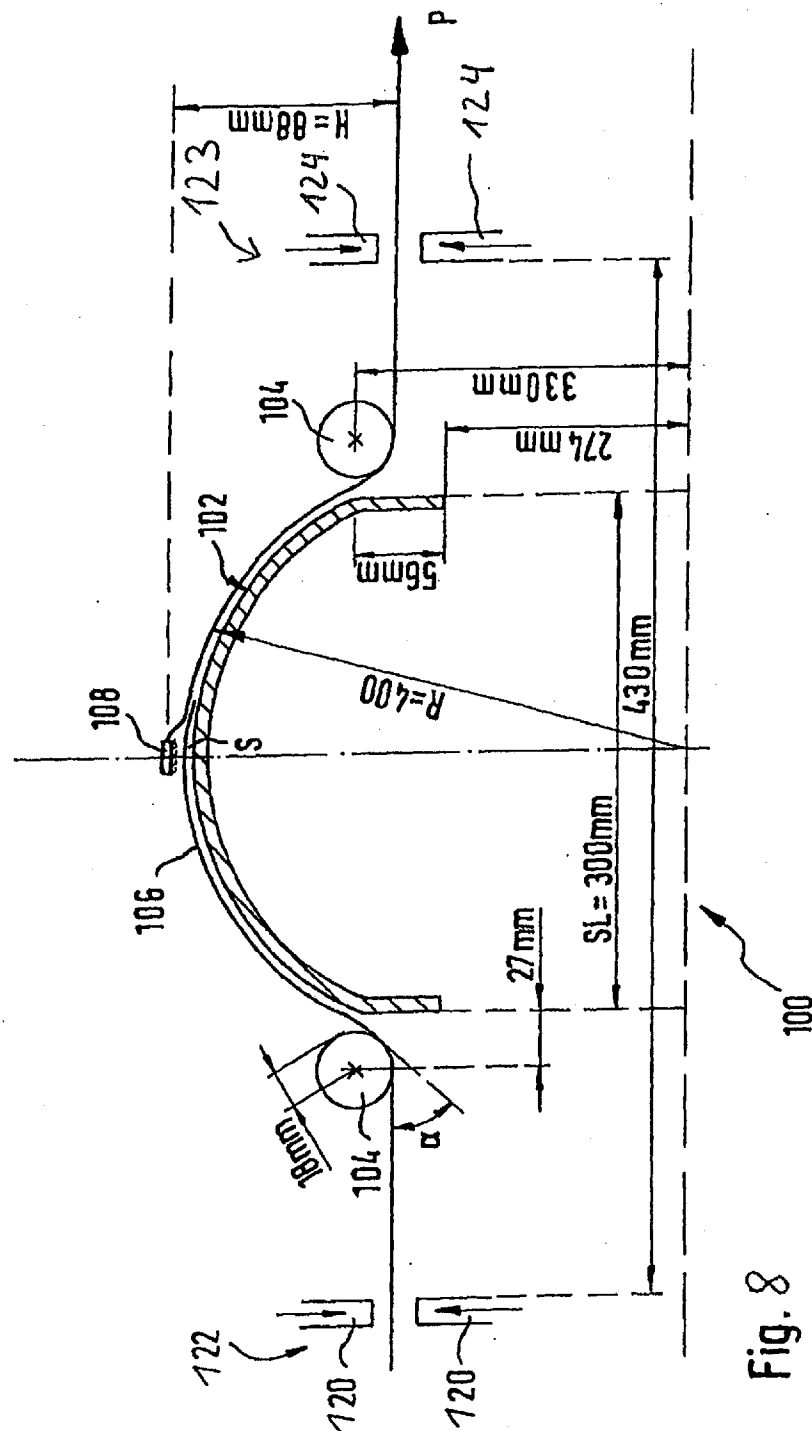


Fig. 7



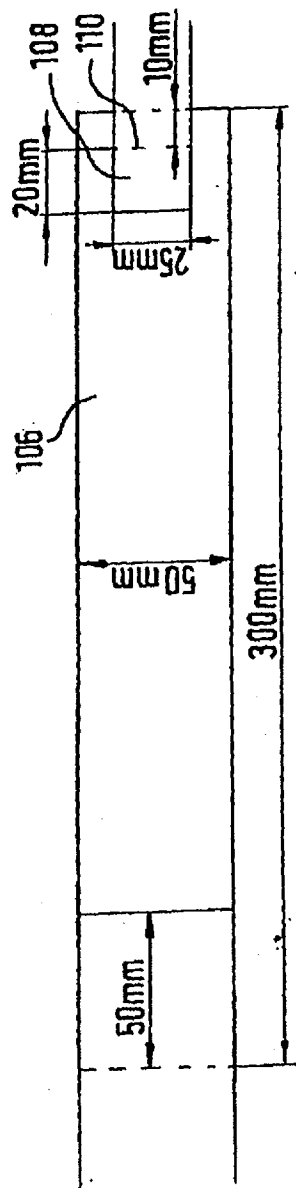


Fig. 9 a

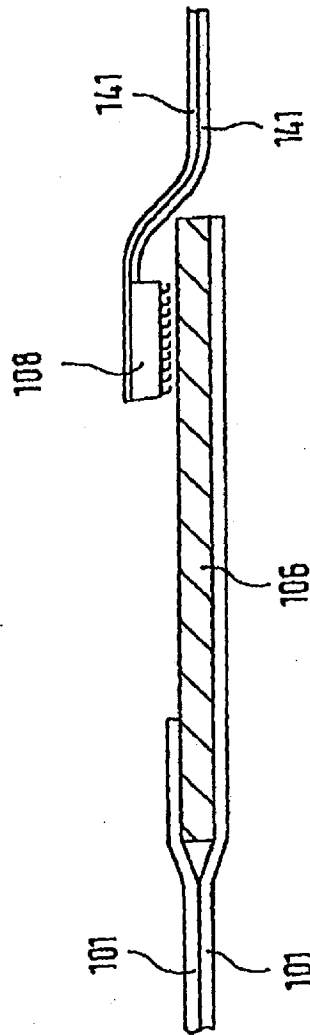


Fig. 9 b

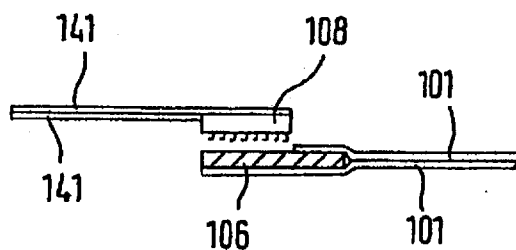


Fig. 9c

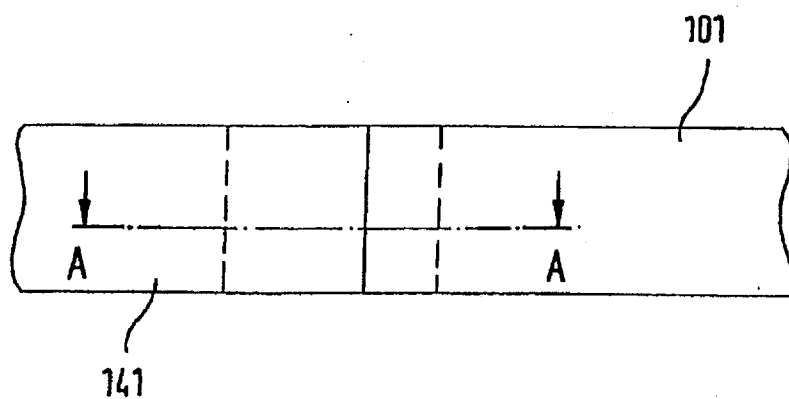


Fig. 9d

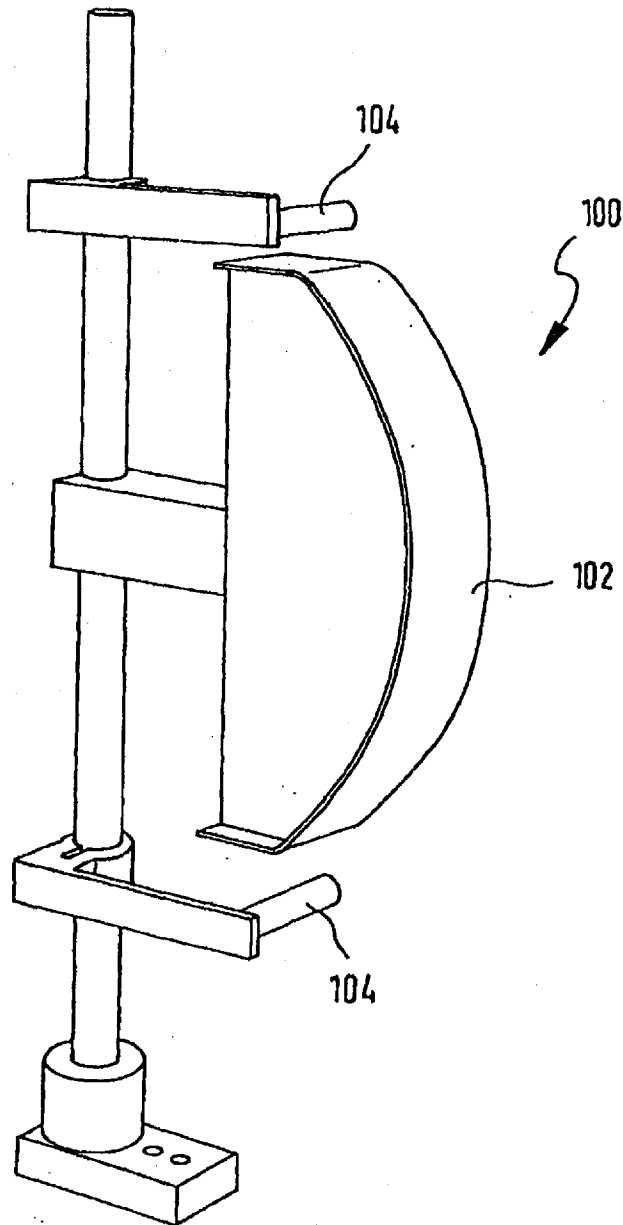


Fig. 10

Fig. 11a

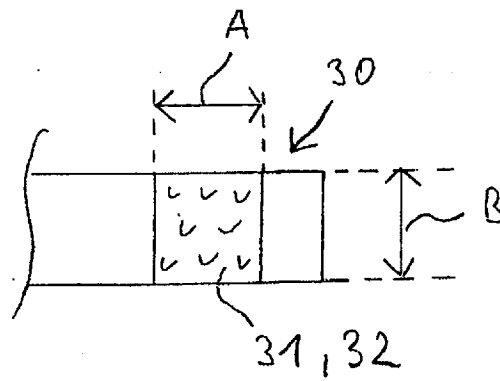
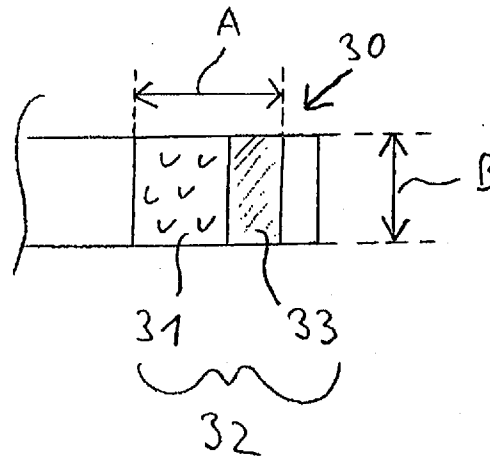


Fig. 11b



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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1703 1923US3
		Application Number	
Title of Invention	Absorbent incontinence article with improved closure system		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2

<input type="checkbox"/> Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--

Inventor Information:

Inventor 1 Remove				
Legal Name				
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Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
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Inventor 2 Remove				
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Postal Code	89542	Country	DE	

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.

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Correspondence Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1703 1923US3
		Application Number	
Title of Invention	Absorbent incontinence article with improved closure system		

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ An Address is being provided for the correspondence information of this application.

Customer Number	29894		
Email Address	email@dreiss.de	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	Absorbent incontinence article with improved closure system		
Attorney Docket Number	1703 1923US3	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	9	Suggested Figure for Publication (if any)	1

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

Request Not to Publish. I hereby request that the attached application not be published under

☐ 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

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Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	29894		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Pending	<input type="button" value="Remove"/>
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number		1703 1923US3	
		Application Number			
Title of Invention		Absorbent incontinence article with improved closure system			

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13404019	2012-02-24
Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
13404019	Continuation of	12446586	2009-04-22
Prior Application Status	Patented	<input type="button" value="Remove"/>	

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12446586	a 371 of international	PCT/EP07/09030	2007-10-18	8152788	2012-04-10

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

<input type="button" value="Remove"/>			
Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Priority Claimed
06022450.8	EP	2006-10-27	<input checked="" type="radio"/> Yes <input type="radio"/> No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1703 1923US3
		Application Number	
Title of Invention	Absorbent incontinence article with improved closure system		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

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☒ Assignee ☐ Legal Representative under 35 U.S.C. 117

☐ Person to whom the inventor is obligated to assign. ☐ Person who shows sufficient proprietary interest

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Assignee is an Organization check here. ☒

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Mailing Address Information:

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Country i DE Postal Code 89522

Phone Number Fax Number

Email Address

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Signature:

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NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	<input type="text"/> /Paul Vincent/		Date (YYYY-MM-DD)	<input type="text"/> 2013-03-13
First Name	<input type="text"/> Paul	Last Name	<input type="text"/> Vincent	Registration Number <input type="text"/> 37461

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1703 1923US3
		Application Number	
Title of Invention	Absorbent incontinence article with improved closure system		

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	15199145
Application Number:	13798242
International Application Number:	
Confirmation Number:	4782
Title of Invention:	Absorbent incontinence article with improved closure system
First Named Inventor/Applicant Name:	Susanne Beckert
Customer Number:	29894
Filer:	Paul Vincent
Filer Authorized By:	
Attorney Docket Number:	1703 1923US3
Receipt Date:	13-MAR-2013
Filing Date:	
Time Stamp:	09:05:24
Application Type:	Utility under 35 USC 111(a)

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	260-415cnt.pdf	31957 8aafa229eb1e7825227b6c02943e12ed9e79bffe	no	2

Warnings:

Information:

2		260-415cn.pdf	163686 1e5d092b1a314630f0e780ffb80e05d3d4c adb8	yes	40
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	31	
	Claims		32	39	
	Abstract		40	40	
Warnings:					
Information:					
3	Drawings-only black and white line drawings	260-415f.pdf	157449 afe002029ea0dde6a28e9b02a06e0473fd1 15b13	no	9
Warnings:					
Information:					
4	Application Data Sheet	260-415ads.pdf	1068318 aa5a1dd4f5c7b12b97b3fe121d34dceda1f bfb16	no	6
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