

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

Börlin, Maria
ZACCO SWEDEN AB
P.O. Box 5581
Valhallavägen 117N
SE-114 85 Stockholm
SUEDE

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing
(day/month/year)

14.02.2017

Applicant's or agent's file reference
P41405405PCT00

IMPORTANT NOTIFICATION

International application No.
PCT/SE2014/051549

International filing date (day/month/year)
19.12.2014

Priority date (day/month/year)

Applicant
Sca Hygiene Products AB

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0
Fax: +49 89 2399 - 4465

Authorized Officer

Ladurner, Yvan

Tel. +49 89 2399-7913



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P41405405PCT00	FOR FURTHER ACTION		See Form PCT/IPEA/416																								
International application No. PCT/SE2014/051549	International filing date (day/month/year) 19.12.2014	Priority date (day/month/year)																									
International Patent Classification (IPC) or national classification and IPC INV. A61F13/496																											
Applicant Sca Hygiene Products AB																											
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>9</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☒ (sent to the applicant and to the International Bureau) a total of <u>5</u> sheets, as follows: ☒ sheets of the description, claims and/or drawings which have been amended and/or sheets containing rectifications authorized by this Authority, unless those sheets were superseded or cancelled, and any accompanying letters (see Rules 46.5, 66.8, 70.16, 91.2, and Section 607 of the Administrative Instructions). ☐ sheets containing rectifications, where the decision was made by this Authority not to take them into account because they were not authorized by or notified to this Authority at the time when this Authority began to draw up this report, and any accompanying letters (Rules 66.4bis, 70.2(e), 70.16 and 91.2). ☐ superseded sheets and any accompanying letters, where this Authority either considers that the superseding sheets contain an amendment that goes beyond the disclosure in the international application as filed, or the superseding sheets were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in item 4 of Box No. I and the Supplemental Box (see Rule 70.16(b)). b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing, in the form of an Annex C/ST.25 text file, as indicated in the Supplemental Box Relating to Sequence Listing (see paragraph 3ter of Annex C of the Administrative Instructions).																											
4. This report contains indications relating to the following items: <table style="width: 100%; border: none;"> <tr> <td style="width: 15px;">☒</td> <td style="width: 100px;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td>☐</td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td>☐</td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td>☐</td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td>☒</td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td>☐</td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td>☐</td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td>☐</td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>				☒	Box No. I	Basis of the report	☐	Box No. II	Priority	☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	☐	Box No. IV	Lack of unity of invention	☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	☐	Box No. VI	Certain documents cited	☐	Box No. VII	Certain defects in the international application	☐	Box No. VIII	Certain observations on the international application
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Date of submission of the demand 19.10.2016		Date of completion of this report 14.02.2017																									
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465		Authorized officer Schmitt-Humbert, C Telephone No. +49 89 2399-7351																									



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/SE2014/051549

Box No. I Basis of the report

1. With regard to the **language**, this report is based on

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a) and (b))

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-15 as published

Claims, Numbers

1-11 filed in electronic form on

19-10-2016

Drawings, Sheets

1/7-7/7 as published

- ☐ a sequence listing - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☒ the claims, Nos. 12
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-bis)):

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):

5. ☐ This report has been established:

- ☐ taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-bis) and 70.2(e)).
- ☐ without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91(Rules 66.4bis and 70.2(e)).

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/SE2014/051549

6. ☒ With regard to top-up searches (Rules 66.1 *ter* and 70.2(f)):
- ☐ A top-up search was carried out by this Authority on (all discovered documents are listed in the Supplemental Box Relating to Top-up Search).
 - ☐ Additional relevant documents have been discovered during the top-up search.
 - ☒ No top-up search was carried out by this Authority because it would serve no useful purpose.
7. ☐ Supplementary international search report(s) from Authority(ies) has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).

* If item 4 applies, some or all of those sheets may be marked "superseded".

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-11</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-11</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-11</u>
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- D1 WO 2006/093439 A1 (SCA HYGIENE PROD AB ET AL) 8 September 2006 (2006-09-08)
- D2 US 2004/210205 A1 (VANGOMPEL PAUL ET AL) 21 October 2004 (2004-10-21)
- D3 EP 1 870 067 A1 (KAO CORP) 26 December 2007 (2007-12-26)
- D4 WO 2013/005423 A1 (UNICHARM CORP ET AL) 10 January 2013 (2013-01-10)

1 Independent claim 1 reads as follow:

"A pant type disposable absorbent article comprising a front body panel (1), a back body panel (2) positioned at a distance from said front body panel, and an absorbent member (3) being attached to and bridging said front body panel and said back body panel; said absorbent article having a longitudinal central axis X-X and a transverse central axis Y-Y; said front body panel (1) being substantially rectangular, and having a waist edge (4), two side edges (5, 6), and an inward edge (7) comprising a crotch edge (8) and leg opening edges (9, 10) on each side of the crotch edge, between the crotch edge (8) and each side edge (5, 6), said front body panel being at least partially elasticized, said back body panel (2) having a waist edge (12), two side edges (13, 14), a crotch edge (15), and leg opening edges (16, 17) on each side of the crotch edge, between the crotch edge (15) and each side edge (13, 14), wherein a distance from the crotch edge (15) to the waist edge (12) is greater than the length of the side edges (13, 14); and said back body panel being at least partially elasticized; the side edges (5, 6) of the front body panel (1) being joined to the corresponding side edges (13, 14) of the back body panel (2); said absorbent member (3) having a substantially rectangular shape, and comprising a liquid permeable top sheet layer (19), an absorbent body (20) and a liquid impermeable back sheet layer (21); and comprising a front attachment portion (22) being attached to the front body panel (1), a back attachment portion (23) being attached to the back body panel (2), and an intermediate crotch portion (24) extending from the crotch edge (8) of the inward edge of the front body panel (1) to the crotch edge (15) of the back body panel (2);

wherein in the absorbent body (20) has a total length L3, the front attachment portion (22) has a length L4, the back attachment portion (23) has a length L5, and the intermediate crotch portion (24) has a length L6, said lengths being taken in the longitudinal direction of the absorbent article; and the ratio of the length L6 of the intermediate crotch portion (24) to the length L3 of the absorbent body (20) is $L6:L3=1:2.4$ to $1:3.5$, preferably $1:2.5$ to $1:3$; and the ratio of the length L4 of the front attachment portion (22) to the length L5 of said back attachment portion (23) is $L4:L5=1:1.4$ to $1:2.5$, preferably $1:1.6$ to $1:2.3$, most preferably $1:1.8$ to $1:2.2$

and wherein an imaginary centre line (29) coinciding with the transverse central axis Y-Y divides the absorbent article in two parts of equal longitudinal length, and wherein the imaginary centre line (29) divides the intermediate crotch portion (24) of the absorbent member (3) into a front crotch portion (30) located between the imaginary centre line (29) and the crotch edge (8) of the front body panel (1), and a back crotch portion (31) between the imaginary centre line (29) and the crotch edge (15) of the back body panel (2), and wherein the front portion (30) has a length L1, and the back portion (31) has a length L2, and wherein the ratio of the length L2 of the back portion to the length L1 of the front portion is $L2:L1 < 0.4$, preferably < 0.3 , more preferably < 0.25 , or wherein the crotch edge (15) of the back body panel (2) is located in front of the imaginary centre line (29)"

2 Novelty (Art. 33(2) PCT)

- 2.1 Document D1 discloses a pant-type absorbent article comprising an absorbent assembly (3) and a chassis (4), the chassis comprising a front portion (5) and a back portion (6) (claims 1-3; page 2 lines, 10-22; page 2, line 32-page 3, line 12; page 3, line 21-page 4, line 2; page 5 line 35- page 6 line 8; page 10 line 35- page 11 line 29; page 12 lines 15-30; figures 1-3). The article further comprises a crotch portion (7) located between the front portion and the back portion. The absorbent assembly (3) lies at least in the crotch portion of the article and overlaps a certain distance with both the front and back portions.

Document D1 aims at improving the fit, comfort and security of leakage for an absorbent article (page 2, line 10-12); in particular the fit (page 2 line 24-26). D1 focuses on improving the fit by specifying the percentage of surface area for overlap between the absorbent assembly and the front portion as well as the absorbent assembly and the rear portion (page 3, lines 10-12), which should be 20% or less. D1 also specifies the percentage of the surface areas of the rear half and front half as measured in an extended state of the article

(page 3 lines 21-25). D1 further specifies the lengths and the relative dimensions for the entire absorbent article, as well as the relation of the length of the crotch portion to the length of the entire absorbent article (page 3, line 26 - page 4, line 2).

In Fig. 3 of document D1, a transverse centre line (16) defines a front half and a rear half of the absorbent article (page 12, lines 8-10). The distance between the back crotch portion seam (9) (page 13, line 20) and the transverse centre line (16) corresponds to the length L2 of the present application and the distance between the front crotch portion seam (8) and the transverse centre line (16) corresponds to the length L1 of the present application. From Fig. 2 of document D1, it appears that the distance b2 corresponds to the length L1+L2 or L6 as defined in the present application.

Taken as a whole, document D1 discloses a pant type disposable absorbent article comprising a front body panel, a back body panel positioned at a distance from said front body panel, and an absorbent member being attached to and bridging said front body panel and said back body panel; said absorbent article having a longitudinal central axis X-X and a transverse central axis Y-Y; said front body panel being substantially rectangular, and having a waist edge, two side edges, and an inward edge comprising a crotch edge and leg opening edges on each side of the crotch edge, between the crotch edge and each side edge, said front body panel being at least partially elasticized, said back body panel having a waist edge, two side edges, a crotch edge, and leg opening edges on each side of the crotch edge, between the crotch edge and each side edge, wherein a distance from the crotch edge to the waist edge is greater than the length of the side edges; and said back body panel being at least partially elasticized; the side edges of the front body panel being joined to the corresponding side edges of the back body panel; said absorbent member having a substantially rectangular shape, and comprising a liquid permeable top sheet layer, an absorbent body and a liquid impermeable back sheet layer (page 6, lines 5-33); and comprising a front attachment portion being attached to the front body panel, a back attachment portion being attached to the back body panel, and an intermediate crotch portion extending from the crotch edge of the inward edge of the front body panel to the crotch edge of the back body panel (page 12, line 32-page 13, line 22);

and wherein an imaginary centre line coinciding with the transverse central axis Y-Y divides the absorbent article in two parts of equal longitudinal length, and wherein the imaginary centre line divides the intermediate crotch portion of the absorbent member into a front crotch portion located between the imaginary centre line and the crotch edge of the front body panel, and a back crotch portion between the imaginary centre line and the crotch edge of the back body panel, and wherein the front portion has a length L1, and the back portion has a length L2.

D1 does not disclose a difference between the overlap of the absorbent assembly and the rear portion and the overlap of the absorbent assembly and the front portion. The lengths of L4 and L5, as well as the ratio L4:L5, are thus not disclosed in D1. Fig. 3 in D1 does not show or indicate these lengths and/or ratios. The ratios of the lengths L6:L3 and L4:L5. The ratios of the lengths L6:L3 and L4:L5 allow optimal positioning of the absorbent member, leading to optimal fit of the absorbent article.

Document D1 does therefore not anticipate the subject-matter of independent claim 1 and dependent claims 2-11.

- 2.2 Document D2 (par. [0011], [0029], [0032], figures 1 -3) discloses a disposable pant-like absorbent undergarment comprising a stretchable front panel (12), a stretchable back panel (22) and an absorbent assembly (38) being secured to the outer surfaces of the front and back panel respectively.

Document D2 aims at providing an article that provides a dryer and more comfortable feel to the user. Document D2 focuses on improving the article by use of elasticity of the parts comprising the article (par. [0012]-[0018]), and by specifying the percentage for the surface area for overlap of the absorbent assembly and the front panel, as well as the surface area for overlap of the absorbent assembly and the back panel (par. [0026]).

However document D2 is silent as to any difference between the overlaps of the absorbent assembly and the rear panel, and the absorbent assembly and the front panel. Figure 2 in document D2 schematically illustrates a product in which the rear panel overlap is larger than the front panel overlap, but there is nothing in the description to either discuss or imply such a ratio. Furthermore, L2:L1 is not shown in D2, nor is the combination of L2:L1, L6:L3 and L4:L5.

Document D2 does therefore not anticipate the subject-matter of independent claim 1 and dependent claims 2-11.

- 2.3 Document D3 (par. [0061]-[0065], [0067]-[0071], [0078]-[0083], figures 3-8) discloses an absorbent article (10) having an absorbent member (1) which includes a web (2) of hydrophilic continuous fibers and a superabsorbent polymer 3. Also disclosed in document D3 is a disposable diaper (10) having barrier cuffs extending in the longitudinal direction of the diaper.

Document D3 does not disclose a pant type diaper. Furthermore, document D3 is silent as to any difference between the overlaps of the absorbent assembly and the rear/back panel, and the absorbent assembly and the front panel.

Document D3 does therefore not anticipate the subject-matter of independent claim 1 and dependent claims 2-11.

- 2.4 Document D4 discloses discloses a disposable wearing article comprising a front waist panel (16), a rear waist panel (17), a crotch region (15) and an absorbent chassis (par. [0010], [0011], [0026], [0029]-[0033], figures 1,2,4). The absorbent chassis (12) comprises a liquid-permeable inner sheet (53), a hydrophobic cover sheet (54), an absorbent core (45) interposed between the inner sheet and the cover sheet, and a leakage barrier sheet (57) interposed between the absorbent core and the cover sheet. The cover sheet (54) extends outside the edge of the absorbent core (45) defining a pair of side flaps (61) provided with a plurality of leg elastics (62) extending in the longitudinal direction of the absorbent core (45).

The aim in D4 is to keep the peripheries of the respective leg-openings in close contact with the wearer's body with a good fit to prevent the absorbent core from being displaced and to prevent body fluids from leaking out side ways.

In Fig. 2 of document D4, a transverse centre line (IV) defines a front half and a rear half of the absorbent article. It appears that the crotch portion distance (15) corresponds to the length $L1+L2$ or $L6$ as defined in the present application.

However document D4 is silent as to any difference between the overlaps of the absorbent assembly and the rear/back panel, and the absorbent assembly and the front panel. Furthermore, $L2:L1$ is not shown in D4, and nor is the combination of $L2:L1$, $L6:L3$ and $L4:L5$.

Document D4 does therefore not anticipate the subject-matter of independent claim 1 and dependent claims 2-11.

- 2.5 In view of the above, claims 1-11 are considered new in the sense of Art. 33(2) PCT.

3 Inventive step (Art. 33(3) PCT)

- 3.1 Document D1 which aims at improving the fit, comfort and security of leakage for an absorbent article is considered to represent the closest prior art relevant to claim 1.

- 3.2 Claim 1 differs from the disclosure of document D1 in at least the fact that D1 does not disclose a difference between the overlap of the absorbent assembly and the rear portion and the overlap of the absorbent assembly and the front portion. The lengths of L4 and L5, as well as the ratio L4:L5, are thus not disclosed in D1. Taken as a whole, the specific ratios of L6:L3 and L4:L5 are not disclosed in document D1.

According to the disclosure of the present application, the ratios of the lengths L6:L3 and L4:L5 allow optimal positioning of the absorbent member, leading to optimal fit of the absorbent article.

- 3.3 Starting from D1, the problem to be solved may be seen in the provision of an additional pant type disposable article.

Starting from D1, the person skilled in the art, faced with the above problem, would not have an incentive to choose the combination of the specific ratios of L2:L1, L6:L3 and L4:L5 in accordance with claim 1, as this is not discussed in D1.

Furthermore, the skilled person would not find any incentive in D2 or D4 to combine the specific length ratios L2:L1, L6:L3 and L4:L5 and he would thus not choose this combination. There is no figure or any wording in any of D1, D2 or D4 that discloses the combination of L2:L1, L6:L3 and L4:L5, neither explicitly nor implicitly.

- 3.4 In view of the above, claim 1 must be considered inventive in the sense of Art. 33(3) PCT.
- 3.5 Dependent claims 2-11 are also considered inventive in the sense of Art. 33(3) PCT.

Zacco Sweden AB, P.O.Box 5581, SE-114 85 Stockholm, Sweden

European Patent Office
D-80298 MUNICH
Germany

Via epoline

Date: 19 October 2016
Our ref: P41405405PCT00 MBN/LDN/PETSTO

Appl.No.: PCT/SE2014/051549
Applicant: SCA HYGIENE PRODUCTS AB

Dear Sirs,

In response to the Written Opinion of the International Searching Authority under PCT Rule 43 *bis*.1, dated 15 September 2015, we herewith submit our arguments for patentability associated to the Demand for International Preliminary Examination.

Please find enclosed an amended set of claims intended to replace the claims currently on file.

Amendments

Claim 2 has been incorporated into claim 1, and the remaining claims have been renumbered.

Novelty and Inventive step

D1 (WO2006/093439A1) aims at improving the fit, comfort and security of leakage for an absorbent article (page2, line 10-12); in particular the fit (page 2 line 24-26). D1 focuses on improving the fit by specifying the percentage of surface area for overlap between the absorbent assembly and the front portion as well as the absorbent assembly and the rear portion (page 3, lines 10-12), which should be 20 % or less. D1 also specifies the percentage of the surface areas of the rear half and front half as measured in an extended state of the article (page 3 lines 21-25). D1 further specifies the lengths and the relative dimensions for the entire absorbent article, as well as the relation of the length of the crotch portion to the length of the entire absorbent article (page 3, line 26 - page 4, line 2).

D1 does not disclose a difference between the overlap of the absorbent assembly and the rear portion and the overlap of the absorbent assembly and the front portion. The lengths of L4 and L5, as well as the ratio L4:L5, are thus not disclosed in D1. Fig. 3 in D1 does not show or indicate these lengths and/or ratios. The ratios of the lengths L6:L3 and L4:L5 allow optimal positioning of the absorbent member, leading to optimal fit of the absorbent article.

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Starting from D1, the person skilled in the art, faced with the task of providing a better fit for the absorbent article, , would not choose the combination of the specific ratios of L2:L1, L6:L3 and L4:L5 in accordance with claim 1, as this is not discussed in D1.

D2 (US2004/210205A1) aims at providing an article that provides a dryer and more comfortable feel to the user. D2 focuses on improving the article by use of elasticity of the parts comprising the article (see paragraphs [0012]-[0018]), and by specifying the percentage for the surface area for overlap of the absorbent assembly and the front panel, as well as the surface area for overlap of the absorbent assembly and the back panel (see paragraph [0026]). However D2 is silent as to any difference between the overlaps of the absorbent assembly and the rear panel, and the absorbent assembly and the front panel. The relationship between these two overlaps is not at all discussed. Figure 2 in D2 schematically illustrates a product in which the rear panel overlap is larger than the front panel overlap, but there is nothing in the description to either discuss or imply such a ratio. Furthermore, L2:L1 is not shown in D2, and nor is the combination of L2:L1, L6:L3 and L4:L5.

The skilled person having the task of improving the fit of the article in D1 would not find any incentive in D2 to combine the specific length ratios L2:L1, L6:L3 and L4:L5 and he would thus not choose this combination. There is no figure or any wording in any of D1 or D2 that discloses the combination of L2:L1, L6:L3 and L4:L5, neither explicitly nor implicitly. The fact that some of the drawings in D1 and D2 seem disclose certain of these length ratios, without discussing them in the description, would not warrant the skilled person to choose that specific combination of ratios, since dimensions obtained merely by measuring a diagrammatic representation in a document do not form part of the disclosure (T 204/83).

In conclusion, therefore, it is respectfully submitted that the absorbent article of claim 1 is novel and involves an inventive step in view of D1 alone or in combination with D2, and that the application thereby satisfies the requirements of PCT. However, as a precaution, we hereby request an informal telephone conversation or a second WO in case the Examiner considers issuing a negative IPRP.

Yours faithfully
Zacco Sweden AB



Maria Börlin

AMENDED CLAIMS

1. A pant type disposable absorbent article comprising a front body panel (1), a back body panel (2) positioned at a distance from said front body panel, and an absorbent member (3) being attached to and bridging said front body panel and said back body panel; said absorbent article having a longitudinal central axis X-X and a transverse central axis Y-Y;

said front body panel (1) being substantially rectangular, and having a waist edge (4), two side edges (5, 6), and an inward edge (7) comprising a crotch edge (8) and leg opening edges (9, 10) on each side of the crotch edge, between the crotch edge (8) and each side edge (5, 6), said front body panel being at least partially elasticized,

said back body panel (2) having a waist edge (12), two side edges (13, 14), a crotch edge (15), and leg opening edges (16, 17) on each side of the crotch edge, between the crotch edge (15) and each side edge (13, 14), wherein a distance from the crotch edge (15) to the waist edge (12) is greater than the length of the side edges (13, 14); and said back body panel being at least partially elasticized;

the side edges (5, 6) of the front body panel (1) being joined to the corresponding side edges (13, 14) of the back body panel (2);

said absorbent member (3) having a substantially rectangular shape, and comprising a liquid permeable top sheet layer (19), an absorbent body (20) and a liquid impermeable back sheet layer (21); and comprising a front attachment portion (22) being attached to the front body panel (1), a back attachment portion (23) being attached to the back body panel (2), and an intermediate crotch portion (24) extending from the crotch edge (8) of the inward edge of the front body panel (1) to the crotch edge (15) of the back body panel (2);

wherein the absorbent body (20) has a total length L3, the front attachment portion (22) has a length L4, the back attachment portion (23) has a length L5, and the intermediate crotch portion (24) has a length L6, said lengths being taken in the longitudinal direction of the absorbent article; and

the ratio of the length L6 of the intermediate crotch portion (24) to the length L3 of the absorbent body (20) is $L6:L3=1:2.4$ to $1:3.5$, preferably $1:2.5$ to $1:3$; and

the ratio of the length L4 of the front attachment portion (22) to the length L5 of said back attachment portion (23) is $L4:L5=1:1.4$ to $1:2.5$, preferably $1:1.6$ to $1:2.3$, most preferably $1:1.8$ to $1:2.2$

and wherein

an imaginary centre line (29) coinciding with the transverse central axis Y-Y divides the absorbent article in two parts of equal longitudinal length, and

wherein the imaginary centre line (29) divides the intermediate crotch portion (24) of the absorbent member (3) into a front crotch portion (30) located between the imaginary centre line (29) and the crotch edge (8) of the front body panel (1), and a back crotch portion (31) between the imaginary centre line (29) and the crotch edge (15) of the back body panel (2), and wherein the front portion (30) has a length L1, and the back portion (31) has a length L2, and wherein the ratio of the length L2 of the back portion to the length L1 of the front portion is $L2:L1 < 0.4$, preferably < 0.3 , more preferably < 0.25 , or

wherein the crotch edge (15) of the back body panel (2) is located in front of the imaginary centre line (29).

2. The absorbent article of claim 1, wherein front leg elastics (11) are arranged on each leg opening edge (9, 10) of the front body panel (1), and back leg elastics (18) are arranged on each leg opening edge (16, 17) of the back body panel (2).

3. The absorbent article of claim 1 or 2, wherein the absorbent member (3) comprises leg elastics (25) on each side of the intermediate crotch portion (24), said leg elastics being the form of one or more elastic threads (38).

4. The absorbent article of claim 3, wherein side leakage barriers (26) are arranged longitudinally on each side of the absorbent member outside the absorbent body (20), said side leakage barriers (26) extending along substantially the entire length of the absorbent member (3), and comprising elastics (27) at a distal edge thereof.

5. The absorbent article of claim 3 or 4, wherein the elastics (27) of the side leakage barriers (26) has a first retraction force F1, and the leg elastics (25) on the intermediate crotch portion (24) has a second retraction force F2, the second retraction force being greater than the first retraction force.

6. The absorbent article of any one of claims 3-5, wherein the absorbent member (3) comprises an edge covering piece (35) in the intermediate crotch portion (24), said edge covering piece (35) being in the form of a separate piece of sheet material, which is attached to the garment side (36) of the back sheet (21) along an attachment line (41), and wrapped around the longitudinal edges (39, 40) of the back sheet (21) and top sheet (19), and attached to the body facing side (37) of the top sheet inward of the elastic threads (38).

7. The absorbent article of claim 6, wherein the edge covering piece (35) is tightly wrapped around the longitudinal edges (39, 40) of the back sheet (21) and top sheet (19) in such a way that substantially no excessive sheet material is present outside of the outermost elastic thread.

8. The absorbent article of claim 6 or 7, wherein said edge covering piece (35) extends further inwards from the attachment line (49) on the top sheet (19), whereby the side leakage barriers (26) are formed integrally with the edge covering piece (35).

9. The absorbent article of any one of claims 1-8, wherein the back body panel has an elasticity gradient, where the retraction force of the back body panel decreases in a direction from the waist edge towards the crotch edge.

10. The absorbent article of any one of claims 1-9, for use as an incontinence guard, wherein the length L5 of the back attachment portion (23) of the absorbent member (3) is 60-130 mm greater than the length L4 of the front attachment portion (22) of the absorbent member.

11. The absorbent article of any one of claims 1-10, for use as a baby diaper, wherein the length L5 of the back attachment portion (23) of the absorbent member is 40-80 mm greater than the length L4 of the front attachment portion (22) of the absorbent member.

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REIVINDICACIONES

1. Un artículo absorbente desechable tipo calzón que comprende un panel de cuerpo frontal, un panel de cuerpo posterior posicionado a una distancia desde dicho panel de cuerpo frontal, y un miembro absorbente uniéndose a y conectando dicho panel de cuerpo frontal y dicho panel de cuerpo posterior; dicho artículo absorbente teniendo un eje central longitudinal X-X y un eje central transversal Y-Y;

10 dicho panel de cuerpo frontal siendo sustancialmente rectangular, y teniendo un borde de cintura, dos bordes laterales, y un borde interior que comprende un borde de entrepierna y bordes de abertura para pierna en cada lado del borde de entrepierna, entre el
15 borde de entrepierna y cada borde lateral, dicho panel de cuerpo frontal siendo al menos parcialmente elástico,

 dicho panel de cuerpo posterior teniendo un borde de cintura, dos bordes laterales, un borde de entrepierna, y bordes de abertura para pierna en cada lado del borde de
20 entrepierna, entre el borde de entrepierna y cada borde lateral, en donde una distancia desde el borde de entrepierna al borde de cintura es mayor que la longitud de los bordes laterales; y dicho panel de cuerpo posterior siendo al menos parcialmente elástico;

25 los bordes laterales del panel de cuerpo frontal

uniéndose a los bordes laterales correspondientes del panel de cuerpo posterior;

dicho miembro absorbente teniendo una forma sustancialmente rectangular, y comprendiendo una capa de hoja superior permeable a líquido, un cuerpo absorbente y una capa de hoja posterior impermeable a líquido; y comprendiendo una porción de unión frontal uniéndose al panel de cuerpo frontal, una porción de unión posterior uniéndose al panel de cuerpo posterior, y una porción de entrepiera intermedia extendiéndose desde el borde de entrepiera del borde interior del panel de cuerpo frontal al borde de entrepiera del panel de cuerpo posterior;

en donde el cuerpo absorbente tiene una longitud total L3, la porción de unión frontal tiene una longitud L4, la porción de unión posterior tiene una longitud L5, y la porción de entrepiera intermedia tiene una longitud L6, dichas longitudes tomándose en la dirección longitudinal del artículo absorbente; y

la proporción de la longitud L6 de la porción de entrepiera intermedia a la longitud L3 del cuerpo absorbente es $L6:L3 = 1:2.4$ a $1:3.5$, preferentemente $1:2.5$ a $1:3$; y

la proporción de la longitud L4 de la porción de unión frontal a la longitud L5 de dicha porción de unión posterior es $L4:L5 = 1:1.4$ a $1:2.5$, preferentemente $1:1.6$ a

1:2.3, más preferentemente 1:1.8 a 1:2.2

y en donde una línea central imaginaria
coincidiendo con el eje central transversal Y-Y divide el
artículo absorbente en dos partes de longitud longitudinal
5 igual, y

en donde la línea central imaginaria divide la
porción de entrepierna intermedia del miembro absorbente en
una porción de entrepierna frontal ubicada entre la línea
central imaginaria y el borde de entrepierna del panel de
10 cuerpo frontal, y una porción de entrepierna posterior
entre la línea central imaginaria y el borde de entrepierna
del panel de cuerpo posterior, y en donde la porción
frontal tiene una longitud L1, y la porción posterior tiene
una longitud L2, y en donde la proporción de la longitud L2
15 de la porción posterior a la longitud L1 de la porción
frontal es $L2:L1 < 0.4$, preferentemente < 0.3 , más
preferentemente < 0.25 , o en donde el borde de entrepierna
del panel de cuerpo posterior se ubica enfrente de la línea
central imaginaria.

20 2. El artículo absorbente de conformidad con la
reivindicación 1, caracterizado porque los elásticos para
pierna frontales se instalan en cada borde de abertura para
pierna del panel de cuerpo frontal, y los elásticos para
pierna posteriores se instalan en cada borde de abertura
25 para pierna del panel de cuerpo posterior.

3. El artículo absorbente de conformidad con la reivindicación 1 o 2, caracterizado porque el miembro absorbente comprende elásticos para pierna en cada lado de la porción de entrepierna intermedia, dichos elásticos para
5 pierna estando en la forma de uno o más filamentos elásticos.

4. El artículo absorbente de conformidad con la reivindicación 3, caracterizado porque las barreras contra derrame laterales se instalan longitudinalmente en cada
10 lado del miembro absorbente fuera del cuerpo absorbente, dichas barreras contra derrame laterales extendiéndose a lo largo de sustancialmente la longitud completa del miembro absorbente, y comprendiendo elásticos en un borde distal de las mismas.

15 5. El artículo absorbente de conformidad con la reivindicación 3 o 4, caracterizado porque el elástico de las barreras contra derrame laterales tiene una primera fuerza de retracción F_1 , y el elástico para pierna en la porción de entrepierna intermedia tiene una segunda fuerza
20 de retracción F_2 , la segunda fuerza de retracción siendo mayor que la primera fuerza de retracción.

6. El artículo absorbente de conformidad con cualquiera de las reivindicaciones 3 a 5, caracterizado porque el miembro absorbente comprende una pieza de
25 cubierta de borde en la porción de entrepierna intermedia,

dicha pieza de cubierta de borde estando en la forma de una pieza separada de material de hoja, que se une al lado de la prenda de la hoja posterior a lo largo de una línea de unión, y envuelta alrededor de los bordes longitudinales de la hoja posterior y hoja superior, y unida al lado que da al cuerpo de la hoja superior dentro de los filamentos elásticos.

7. El artículo absorbente de conformidad con la reivindicación 6, caracterizado porque la pieza de cubierta de borde se envuelve herméticamente alrededor de los bordes longitudinales de la hoja posterior y hoja superior en tal manera que sustancialmente no se presenta material de hoja excesivo fuera del filamento elástico más exterior.

8. El artículo absorbente de conformidad con la reivindicación 6 o 7, caracterizado porque dicha pieza de cubierta de borde se extiende más hacia adentro de la línea de unión en la hoja superior, mediante la cual las barreras contra derrame laterales se forman íntegramente con la pieza de cubierta de borde.

9. El artículo absorbente de conformidad con cualquiera de las reivindicaciones 1 a 8, caracterizado porque el panel de cuerpo posterior tiene un gradiente de elasticidad, donde la fuerza de retracción del panel de cuerpo posterior disminuye en una dirección desde el borde de cintura hacia el borde de entrepierna.

10. El artículo absorbente de conformidad con cualquiera de las reivindicaciones 1 a 9, para usarse como una protección contra incontinencia, caracterizado porque la longitud L5 de la porción de unión posterior del miembro absorbente es 60-130 mm mayor que la longitud L4 de la porción de unión frontal del miembro absorbente.

11. El artículo absorbente de conformidad con cualquiera de las reivindicaciones 1 a 10, para usarse como un pañal de bebé, caracterizado porque la longitud L5 de la porción de unión posterior del miembro absorbente es 40-80 mm mayor que la longitud L4 de la porción de unión frontal del miembro absorbente.