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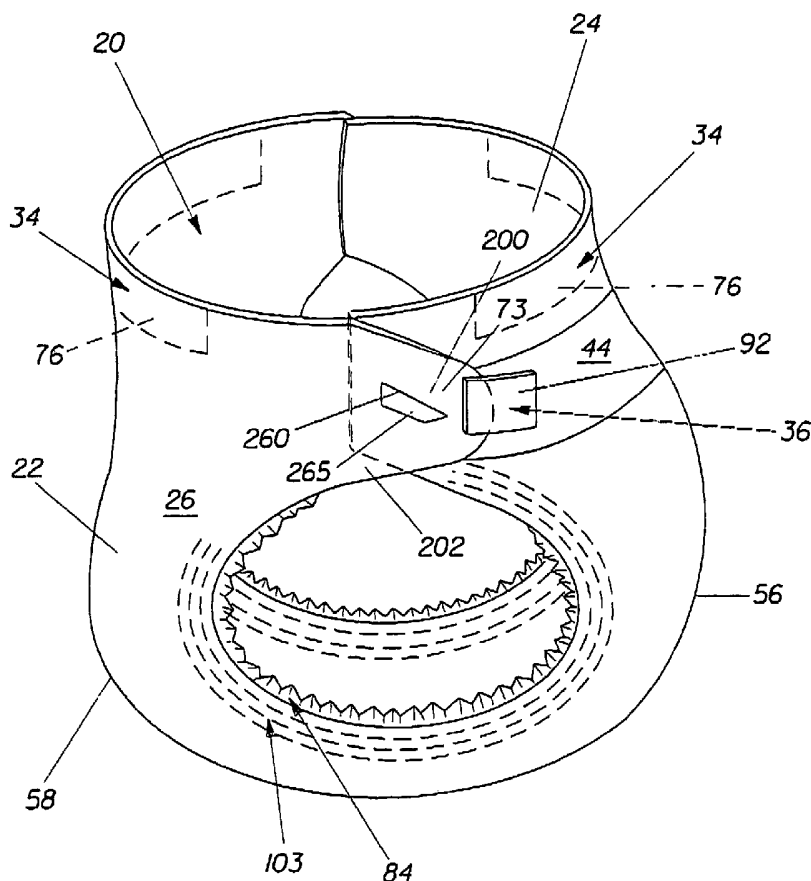
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13/15 **Kenneth**; 714 Maple Ridge Road, Milford, OH 45150 (US).
- (21) International Application Number: PCT/US02/01504 (74) Agents: **REED, T., David** et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).
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- (72) Inventors: **MOLANDER, John, Carroll**; 9905 Tollgate Lane, Cincinnati, OH 45242 (US). **JOHNSON, Larry**, (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: DISPOSABLE DIAPER WITH TENSION-DIVIDING SIDE PANELS



(57) Abstract: Absorbent articles such as disposable diapers, incontinent briefs, diaper holders, training pants, and the like, that provide dynamic fit about the wearer by the use of extensible, outwardly extending side panels. The side panel includes at least one discontinuity for dividing the tensile force extending the side panel into a waist-directing force and a leg-directing force. The waist-directing force is transmitted by the side panel to the waist area of the article to maintain the waist area in a snug, but comfortable, fit against the waist of the wearer. The leg-directing force is transmitted by the side panel to the leg cuff area of the article to prevent leakage between the leg cuff and the wearer's leg.

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Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/01504

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61F13/49 A61F13/15

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 132 411 A (HUBER MICHAEL T ET AL) 17 October 2000 (2000-10-17) column 8, line 45 -column 9, line 39; figures ---	1,2
X	US 5 906 008 A (HIUKE TAKASHI ET AL) 25 May 1999 (1999-05-25) column 10, line 3 - line 37 column 10, line 35 - line 37 column 11, line 23 -column 12, line 17 ---	1-6,8-10
X	US 6 004 306 A (DAKIN CONSTANCE LEE ET AL) 21 December 1999 (1999-12-21) column 23, line 15 - line 66 ---	7
X	US 6 004 306 A (DAKIN CONSTANCE LEE ET AL) 21 December 1999 (1999-12-21) column 23, line 15 - line 66 ---	1
X	US 4 850 988 A (ALEDO EDUARDO C A ET AL) 25 July 1989 (1989-07-25) the whole document --- -/-	1-7,10



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

° Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

19 February 2003

Date of mailing of the international search report

06/03/2003

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INTERNATIONAL SEARCH REPORT

Int. — 1al Application No
PCT/US 02/01504

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 827 260 A (FUKUI HIROAKI ET AL) 27 October 1998 (1998-10-27) column 6, line 61 -column 7, line 38; examples 11-14 -----	1,2,7
X	US 5 370 634 A (ANDO KENJI ET AL) 6 December 1994 (1994-12-06) the whole document -----	1,2,4,6, 8

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1, 2-4, 10

A disposable article having side panels having in an inner region of the side panel at least one discontinuity for dividing a tensile force applied to the side panel into a waist directing force and a leg directing force.

2. Claims: 1, 5, 6, 8, 9

A disposable article having side panels having in an inner region of the side panel at least one cut line for dividing a tensile force applied to the side panel into a waist directing force and a leg directing force.

3. Claims: 1,7

A disposable article having side panels having in an inner region of the side panel at least one opening for dividing a tensile force applied to the side panel into a waist directing force and a leg directing force.

The present invention lacks unity within the meaning of Rule 13.2 of the PCT for the following reasons:

Document D1 discloses (Col. 8 line 45 - col. 9 line 39) a disposable article having side panels having in an inner region of the side panel at least one discontinuity for dividing a tensile force applied to the side panel into a waist directing force and a leg directing force.

Over this prior art the special technical features (in the meaning of the Rule 13.2 PCT) left in the three groups of claims (1, 2-4, 10) , (5, 6, 8, 9) and (7) are the following:

Claims 1, 2-4, 10:

A disposable article having side panels having a leg region and a waist region diverging from each other, solving the problem of the directional distribution of the forces.

Claims, 5, 6, 8, 9 :

A disposable article having side panels having in an inner region of the side panel at least one cut line, solving the problem of separating a panel in two regions when the panel is made out of single sheet material.

Claim 10 :

A disposable article having side panels having in an inner

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

region of the side panel at least one opening, solving the problem of stress concentration and tearing of the panel.

No same or corresponding feature can be found among the groups of claims (1, 2-4, 10), (4, 5, 8, 9), and 7 apart from the features known from the prior art. The special technical features of the groups of claims (1, 2-4, 10), (4, 5, 8, 9), and 7 solve different and distinct problems which can be approached independently from each other.

There is therefore no technical relationship between the groups of claims (1, 2-4, 10), (4, 5, 8, 9), and 7 and the inventions defined in the above mentioned 3 sets of claims are not linked by a common general inventive concept.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/01504

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Int. Application No

PCT/US 02/01504

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